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Serial: RA-19-0136

ATTN: Document Control Desk  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555-0001

Shearon Harris Nuclear Power Plant, Unit 1  
Docket No. 50-400/Renewed License No. NPF-63  
Subject: Annual Radiological Environmental Operating Report

Ladies and Gentlemen:

In accordance with Harris Nuclear Plant Technical Specification 6.9.1.3, Duke Energy Progress, LLC, is providing the enclosed Annual Radiological Environmental Operating Report for 2018.

This submittal contains no regulatory commitments. Please refer any questions regarding this submittal to Sarah McDaniel at (919) 362-2002.

Sincerely,

  
Brian C. McCabe

Enclosure

cc: J. Zeiler, NRC Sr. Resident Inspector, HNP  
M. Barillas, NRC Project Manager, HNP  
NRC Regional Administrator, Region II



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# **ANNUAL RADIOLOGICAL ENVIRONMENTAL OPERATING REPORT**

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**DUKE ENERGY PROGRESS, LLC**

**SHEARON HARRIS NUCLEAR POWER PLANT**

**2018**



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## LIST OF ACRONYMS USED IN THIS TEXT *(in alphabetical order)*

A	Annually
APAC	Air Particulate Air Cartridge/Radioiodine
AR	Action Request - Corrective Action Program
AREOR	Annual Radiological Environmental Operating Report
BLV	Broadleaf Vegetation
BW	Biweekly
C	Control
DW	Drinking Water
EZA	Eckert and Ziegler Analytics
GEL	General Engineering Laboratory, LLC
GPS	Global Positioning System
GW	Ground Water
HNP	Harris Nuclear Plant or Shearon Harris Nuclear Plant
LLD	Lower Limit of Detection
LUC	Land Use Census
M	Monthly
MAPEP	Department of Energy Mixed Analyte Performance Evaluation Program
MDA	Minimum Detectable Activity
mR/STD Qtr	milliroentgen per standard quarter
MWe	Mega Watts electric
NIST	National Institute of Standards and Technology
NCR	Nuclear Condition Report - Corrective Action Program
NRC	Nuclear Regulatory Commission
ODCM	Offsite Dose Calculation Manual
pCi/kg	picocurie per kilogram
pCi/l	picocurie per liter
pCi/m <sup>3</sup>	picocurie per cubic meter
Q	Quarterly
REMP	Radiological Environmental Monitoring Program
SA	Semiannually
SM	Semimonthly
SW	Surface Water
TECH SPECS	Technical Specifications
TLD	Thermoluminescent Dosimeter
μCi/ml	microcurie per milliliter
UFSAR	Updated Final Safety Analysis Report
W	Weekly

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# 1.0 EXECUTIVE SUMMARY

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This Annual Radiological Environmental Operating Report describes the Shearon Harris Nuclear Plant Radiological Environmental Monitoring Program (REMP), and the program results for the calendar year 2018.

Included in the report are the identification of sampling locations, descriptions of environmental sampling and analysis procedures, comparisons of present environmental radioactivity levels and pre-operational environmental data, analysis of trends in environmental radiological data as potentially affected by plant operations, and a summary of environmental radiological sampling results. Quality assurance practices, sampling deviations, unavailable samples, and program changes are also discussed.

Sampling activities were conducted as prescribed by the Harris Nuclear Plant Offsite Dose Calculation Manual (ODCM). One thousand five hundred and forty-three samples were analyzed comprising 1,613 test results in order to compile data for the 2018 report. Based on the annual land use census, the current number of sampling sites for Harris Nuclear Plant is sufficient.

Concentrations observed in the environment in 2018 for plant related radionuclides were generally within the ranges of concentrations observed in the past. Inspection of the data showed that radioactivity concentrations in drinking water, ground water, surface water, bottom sediment, and aquatic vegetation are higher than the activities reported for samples collected prior to the operation of the station. Measured concentrations, including tritium, were not higher than expected and all positively identified measurements attributable to station operation were within limits as specified in the HNP ODCM and regulatory limits.

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## **2.0 INTRODUCTION**

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### **2.1 SITE DESCRIPTION AND SAMPLE LOCATIONS**

Duke Energy Corporation's Shearon Harris Nuclear Plant is a one-unit facility located on the shore of Harris Lake in southwest Wake County, North Carolina. The pressurized water reactor nuclear steam supply system furnished by Westinghouse Electric Corporation is designed to produce a net electrical output of approximately 930 MWe. Initial criticality was achieved on January 3, 1987.

Condenser cooling is accomplished utilizing a closed system incorporating a cooling tower, instead of using lake water directly. Liquid effluents are released into Harris Lake via the station discharge canal and are not accompanied by the large additional dilution water flow associated with "once-through" condenser cooling. This design results in greater radionuclide concentrations in the discharge canal given comparable liquid effluent source terms.

Sampling locations are chosen based upon meteorological factors, preoperational monitoring, and results of the land use surveys. Figure 2.1-1 is a map of the HNP site boundary. Sample points beyond the site boundary are considered offsite. Figures 2.1-2 and 2.1-3 are maps depicting the Thermoluminescent Dosimeter (TLD) monitoring locations and the sampling locations. The location numbers shown on these maps correspond to those listed in Tables 2.1-A and 2.1-B. Figure 2.1-2 comprises all sample locations within a one mile radius of HNP. Figure 2.1-3 comprises all sample locations within a 10 mile radius of HNP.

### **2.2 SCOPE AND REQUIREMENTS OF THE REMP**

An environmental monitoring program has been in effect at Harris Nuclear Plant since 1982, five years prior to commencing operation. The preoperational program provides data on the existing environmental radioactivity levels for the site and vicinity, which may be used to determine whether increases in environmental levels are attributable to the station. The operational program provides surveillance and backup support of detailed effluent monitoring which is necessary to evaluate the significance, if any, of the contributions to the existing environmental radioactivity levels that result from station operation.

This monitoring program is based on NRC guidance and is conducted in accordance with Operational Requirement 3.12.1 in the HNP Offsite Dose Calculation Manual and applicable procedures; with regards to sample media, sampling locations, sampling frequency and analytical sensitivity requirements. Indicator and control locations were established for comparison purposes to distinguish radioactivity of plant origin from natural or other "man-made" environmental radioactivity. The environmental monitoring program also verifies projected and anticipated radionuclide concentrations in the environment and related exposures from releases of radionuclides from Shearon Harris Nuclear Plant. This program satisfies the requirements of Section IV.B.2 of Appendix I to 10CFR50 and provides surveillance of all appropriate critical exposure pathways to man and protects vital interests of the company, public and state and federal



agencies concerned with the environment. Reporting levels for activity found in environmental samples are listed in Table 2.2-A. Table 2.2-B lists the REMP analysis and frequency schedule. The Annual Land Use Census, required by the HNP Offsite Dose Calculation Manual is performed to ensure that changes in the use of areas at or beyond the site boundary are identified and that modifications to the REMP are made if required by changes in land use. This census satisfies the requirements of Section IV.B.3 of Appendix I to 10CFR50. Results are shown in Table 3.13.

Participation in an interlaboratory comparison program is performed in fulfillment of HNP ODCM Operational Requirements. The comparison program provides for independent checks on the precision and accuracy of measurements of radioactive material in REMP sample matrices. Such checks are performed as part of the quality assurance program for environmental monitoring in order to demonstrate that the results are valid for the purposes of Section IV.B.2 of Appendix I to 10CFR50. A summary of the results obtained as part of this comparison program are in Section 4 of this annual report.

## **2.3 STATISTICAL AND CALCULATIONAL METHODOLOGY**

### **2.3.1 ESTIMATION OF THE MEAN VALUE**

There was one (1) basic statistical calculation performed on the raw data resulting from the environmental sample analysis program. The calculation involved the determination of the mean value for the indicator and the control samples for each sample medium. The mean is a widely used statistic. This value was used in the reduction of the data generated by the sampling and analysis of the various media in the Radiological Environmental Monitoring Program. "Net activity (or concentration)" is the activity (or concentration) determined to be present in the sample. No "Minimum Detectable Activity", "Lower Limit of Detection", "Less Than Level", or negative activities or concentrations are included in the calculation of the mean. The following equation was used to estimate the mean:

$$\bar{x} = \frac{\sum_{i=1}^N x_i}{N}$$

Where:

$\bar{x}$  = estimate of the mean,

$i$  = individual sample,

$N$  = total number of samples with a net activity (or concentration),

$x_i$  = net activity (or concentration) for sample  $i$ .

### **2.3.2 LOWER LIMIT OF DETECTION AND MINIMUM DETECTABLE ACTIVITY**

The Lower Limit of Detection (LLD) and Minimum Detectable Activity (MDA) are used throughout the REMP.

**LLD** - The LLD, as defined in the ODCM as the smallest concentration of radioactive material in a sample that will yield a net count, above the system background, that will be detected with 95% probability with only 5% probability of falsely concluding that a blank observation represents a "real" signal. The LLD is an *a priori* (before the fact) lower limit of detection. The actual LLD is dependent upon the standard deviation of the background-counting rate, the counting efficiency, the sample size (mass or volume), the radiochemical yield and the radioactive decay of the sample between sample collection and counting. The "required" LLDs for each sample medium and selected radionuclides are given in the ODCM and are listed in Table 2.2-C.

**MDA** - The MDA is the net counting rate (sample after subtraction of background) that must be surpassed before a sample is considered to contain a scientifically measurable amount of a radioactive material exceeding background amounts. The MDA is calculated using a sample background and may be thought of as an "actual" LLD for a particular sample measurement. Certain gross counting measurements display a calculated negative value, indicating background is greater than sample activity.

### **2.3.3 TREND IDENTIFICATION**

One of the purposes of an environmental monitoring program is to determine if there is a buildup of radionuclides in the environment due to the operation of the nuclear plant. Visual inspection of tabular or graphical presentations of data (including preoperational) is used to determine if a trend exists. A decrease in a particular radionuclide's concentration in an environmental medium does not indicate that reactor operations are removing radioactivity from the environment, but that reactor operations are not adding that radionuclide to the environment in quantities exceeding the preoperational level and that the normal removal processes (radioactive decay, deposition, resuspension, etc.) are influencing the concentration.

Substantial increases or decreases in the amount of a particular radionuclide's release from the nuclear plant will greatly affect the resulting environmental levels; therefore, a knowledge of the release of a radionuclide from the nuclear plant is necessary to completely interpret the trends, or lack of trends, determined from the environmental data. Factors that may affect environmental levels of radionuclides include prevailing weather conditions (periods of drought, solar cycles or heavier than normal precipitation), construction in or around either the nuclear plant or the sampling location, and addition or deletion of other sources of radioactive materials (such as the 1986 Chernobyl accident and the Japan earthquake and tsunami, which triggered the 2011 Fukushima Dai-ichi Nuclear Power Plant incident). Some of these factors may be obvious while others are sometimes unknown. Therefore, how trends are identified will include some judgment by plant personnel.

Figure 2.1-1

Map of Site Boundary

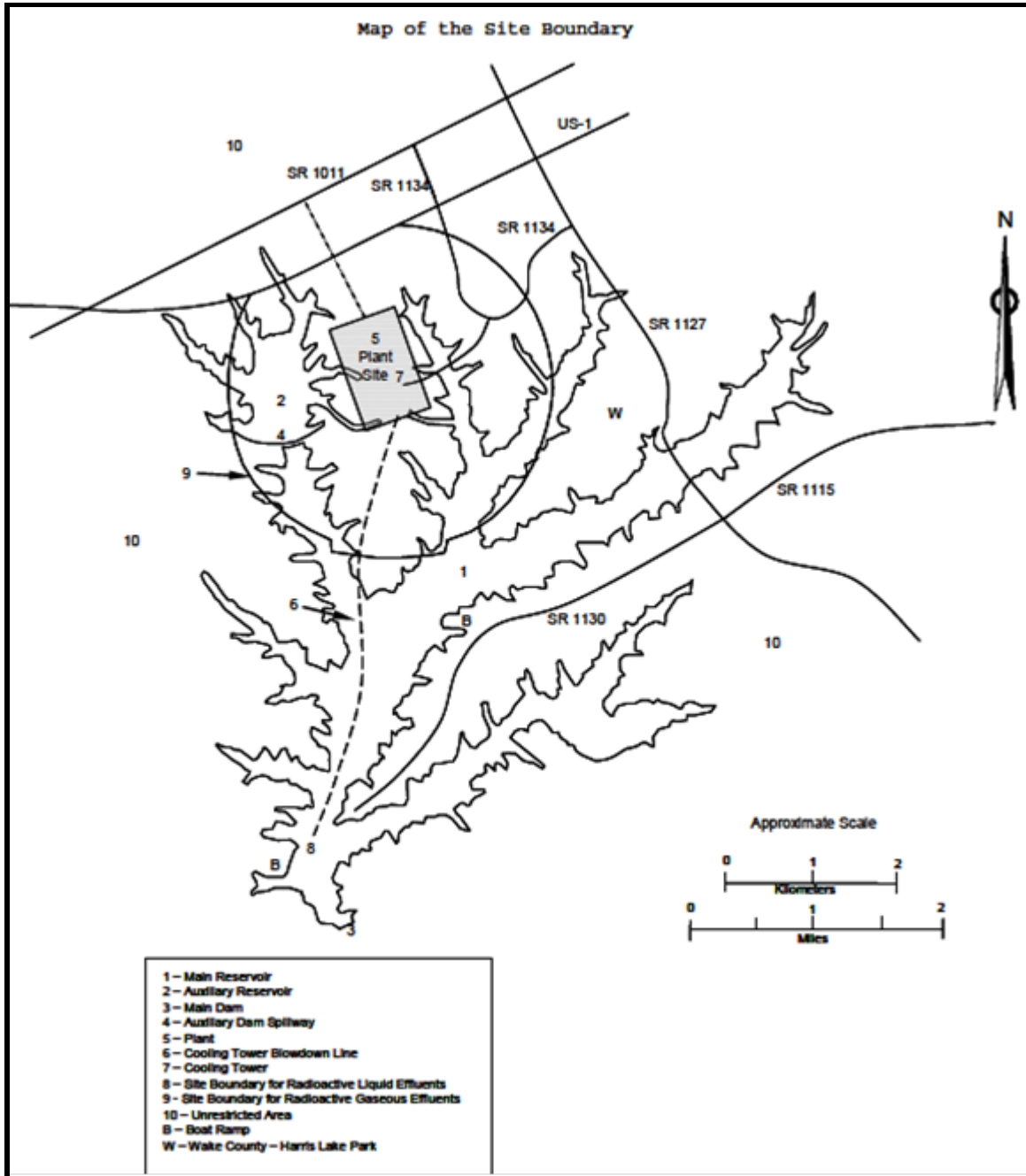


Figure 2.1-2

Harris Nuclear Plant Sampling Locations - One Mile Radius

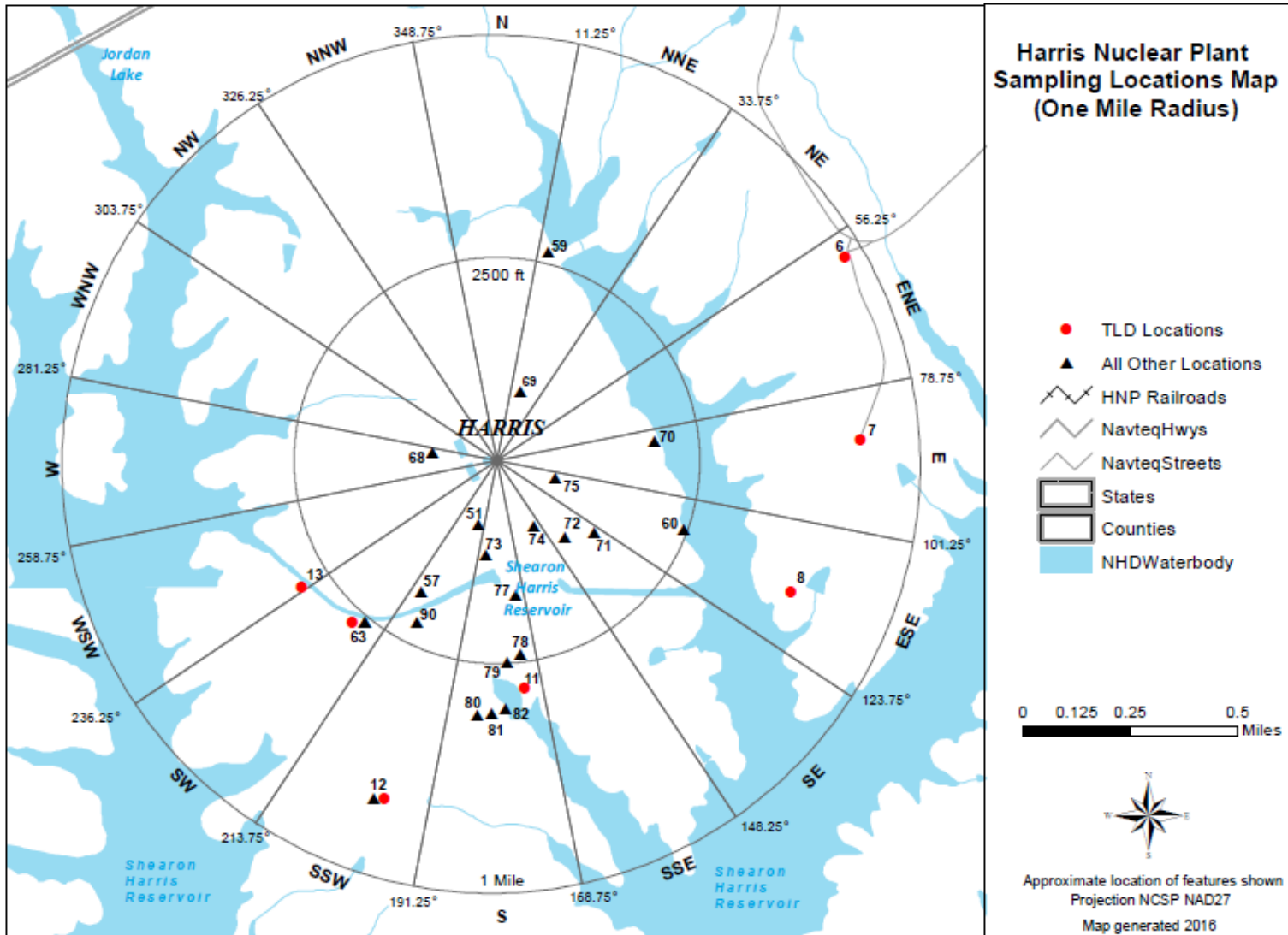
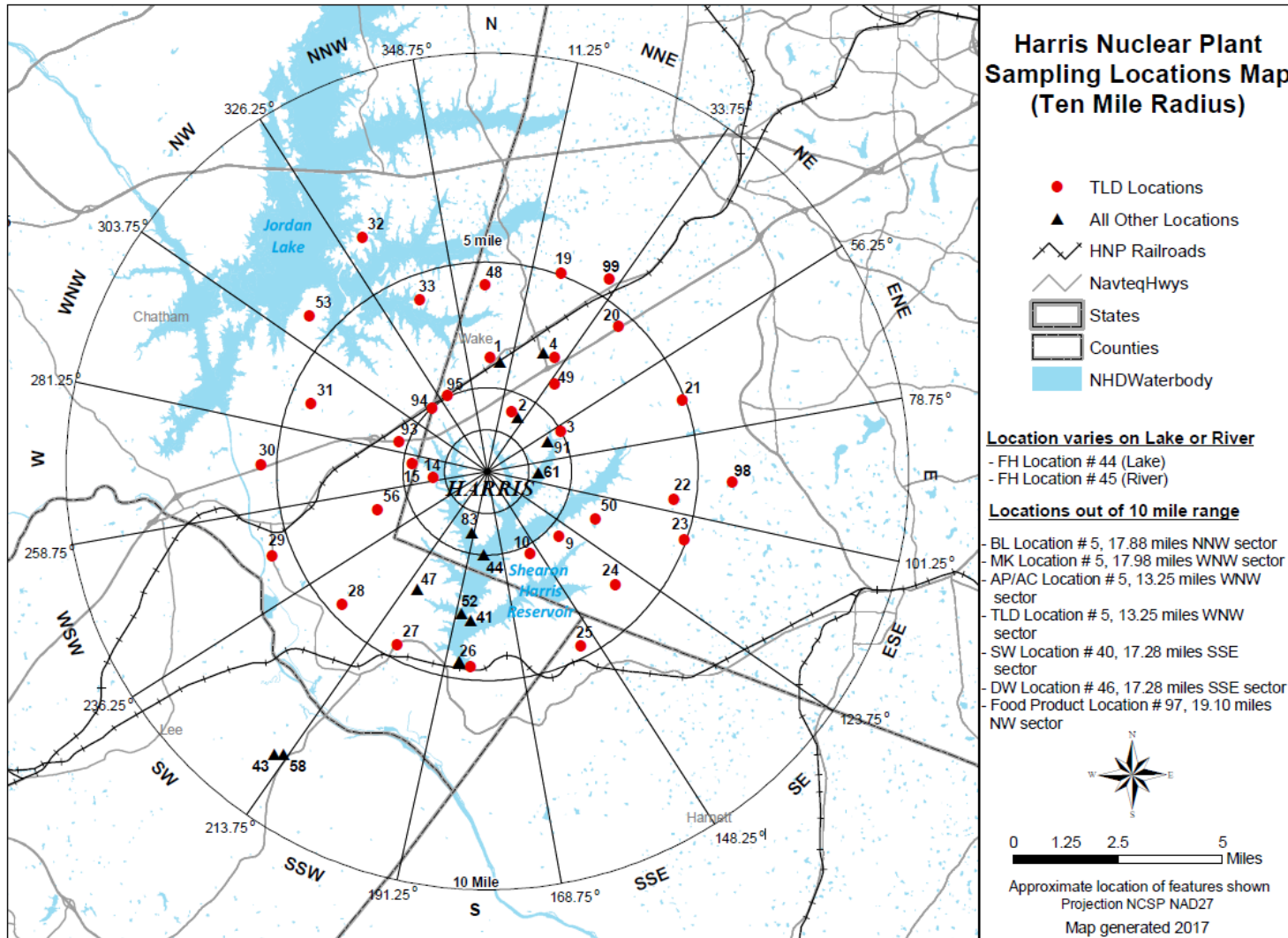


Figure 2.1-3

Harris Nuclear Plant Sampling Locations - Ten Mile Radius



**TABLE 2.1-A**

**HARRIS NUCLEAR PLANT**

**RADIOLOGICAL MONITORING PROGRAM SAMPLING LOCATIONS**

Table 2.1-B Codes				Table 2.1-B Codes (Cont.)					
W	Weekly	SM	Semimonthly	AC	Air Cartridge	SB	Sediment Bottom	FI	Fish
BW	BiWeekly	Q	Quarterly	AP	Air Particulate	AV	Aquatic Vegetation	MK	Milk
M	Monthly	SA	Semiannually	SW	Surface Water	FP	Food Product		
A	Annual			DW	Drinking Water	BLV	Broadleaf Vegetation		
C	Control	I	Indicator	SS	Sediment Shoreline	GW	Ground Water		

Site #	Type	Location Description <sup>(4)</sup>	AC & AP	SW	DW	SS	SB	AV	FP <sup>(1)</sup>	Fish (FI)	Milk (Mk)	BLV <sup>(2)</sup>	GW
1	I	0.1 mi. S on SR 1134 from SR 1011 Intersection, N sector, 2.6 mi. from site.	W/Q										
2	I	1.4 mi. S on SR 1134 from SR 1011 intersection, NNE sector, 1.4 mi. from site.	W/Q										
4	I	0.7 mi. N on SR 1127 from intersection with US, NNE sector, 3.1 mi. from site	W/Q										
5	C	Pittsboro, WNW sector, >12 mi. from site	W/Q								SM/M	M <sup>(2)</sup>	
12	I	SHNPP Site, SSW sector, 0.9 mi. from site.										M <sup>(2)</sup>	
26	I	Harris Lake Spillway, S sector, 4.7 mi. from site.	W/Q	M		SA		A					
40	I	NE Harnett Metro Water Treatment Plant Intake building, SSE sector, 17.2 mi. from site.		M									
41	I	Shoreline of Mixing Zone of Cooling Tower Blowdown Line, S sector, 3.8 mi. from site.				SA		A					
43	C	Sanford Water Treatment Plant, SW sector, 8.5 mi. from site.		M									
44	I	Site varies within Harris Lake								SA			
45	C	Site varies above Buckhorn Dam on Cape Fear River								SA			
46	I	NE Harnett Metro Water Treatment Plant Intake building, SSE sector, 17.2 mi. from site.			BW/M								
47	I	1.3 mi. N on SR 1912 from intersection of NC 42, SSW sector, 3.4 mi. from site.	W/Q										
51	I	SHNPP Water Treatment Plant (On Site)			BW/M								
52	I	Harris Lake in the Vicinity of the Mixing Zone of the Cooling Tower, S sector, 3.8 mi. of site.					SA						
57	I	SHNPP Site (LP-13), N. side of Aux Res Intake canal, SSW sector, 0.4 mi. from site.											Q
58	C	Sanford Water Treatment Plant, SW sector, 8.5 mi. from site.			BW/M								
59	I	SHNPP Site (W-13), N. Side of Old Construction Road, NNE sector, 0.5 mi. from site.											Q
60	I	SHNPP Site, (W-9A), W. bank of Harris Lake SE of Cooling Tower, ESE sector, 0.5 mi. from site.											Q
61	C	Harris Lake East of New Hill-Holleman Rd, E sector, 2.5 mi. of site.						A					

Site #	Type	Location Description <sup>(4)</sup>	AC & AP	SW	DW	SS	SB	AV	FP <sup>(1)</sup>	Fish (FI)	Milk (Mk)	BLV <sup>(2)</sup>	GW
63	I	SHNPP Site, SW sector, 0.6 mi. from site.	W/Q									M <sup>(2)</sup>	
68	I	SHNPP Site (LP-6), N. of Old Steam Generator building, W sector, 0.2 mi. of site.											Q
69	I	SHNPP Site, (LP-7), N. side of Warehouse 9, NNE sector, 0.2 mi. from site.											Q
70	I	SHNPP Site (LP-9), N. side of Plant Entrance, E sector, 0.4 mi. of site.											Q
71	I	SHNPP Site (LP-16), S. of Switchyard, SE sector, 0.3 mi. of site.											Q
72	I	SHNPP Site (MWA-12), N. of Cooling Tower Makeup Water Intake Structures, SE sector, 0.2 mi. from site.											Q
73	I	SHNPP Site, N. of Emergency Service Water Screening Structure, SE sector, 0.2 mi. from site.											Q
74	I	SHNPP Site, N. of helicopter landing pad, SSE sector, 0.2 mi. from site.											Q
75	I	SHNPP Site, W. of Security Building Entrance, ESE sector, 0.1 mi from site.											Q
77	I	SHNPP Site (BD-MW1), Along the Cooling Tower Blowdown Line, S sector, 0.4 mi. from site.											Q
78	I	SHNPP Site (BD-MW2), Along the Cooling Tower Blowdown Line, S sector, 0.5 mi. from site.											Q
79	I	SHNPP Site (BD-MW3), Along the Cooling Tower Blowdown Line, S sector, 0.5 mi. from site.											Q
80	I	SHNPP Site (BD-MW5), Along the Cooling Tower Blowdown Line, S sector, 0.6 mi. from site.											Q
81	I	SHNPP Site (BD-MW7), Along the Cooling Tower Blowdown Line, S sector, 0.6 mi. from site.											Q
82	I	SHNPP Site (BD-MW8), Along the Cooling Tower Blowdown Line, S sector, 0.6 mi. from site.											Q
83	I	SHNPP Site (BD-MW16), Along the Cooling Tower Blowdown Line, S sector, 1.6 mi. from site.											Q
90	I	SHNPP Site, SSW sector, 0.5 mi. from site.	W/Q										
91	I	HE&EC, Sewage Treatment Facility, ENE sector, 1.6 mi. from site.	W/Q										
97	C	Granite Springs Farm, NW sector, 19.1 mi. from site.							M <sup>(1)</sup>				
102	I	Goat Farm, W sector, 2.82 mi. from site.									SM <sup>(3)</sup>		

(1) When Available, during Harvest/Growing Season

(2) During Growing Season per ODCM – May through October

(3) When goats are lactating

(4) GPS data reflect approximate accuracy to within 2-5 meters. GPS field measurements were taken as close as possible to the item of interest.

**TABLE 2.1-B**

**HARRIS NUCLEAR PLANT**

**RADIOLOGICAL MONITORING PROGRAM SAMPLING LOCATIONS (TLD SITES)**

Table 2.1-C Codes			
IR	Inner Ring	OR	Outer Ring
C	Control	SI	Special Interest

Site #	Measure Type	Location <sup>(1)</sup>	Distance (miles)	Sector	Site #	Measure Type	Location <sup>(1)</sup>	Distance (miles)	Sector
1	IR	0.1 mi. on SR 1134 from SR 1011 intersection	2.6	N	25	OR	0.2 mi. W on SR 1402 from intersection of SR 1400.	4.7	SSE
2	IR	1.4 mi. S on SR 1134 from SR 1011 intersection	1.4	NNE	26	OR	Harris lake Spillway	4.7	S
3	SI	HE&EC Visitor Center (Population Center)	1.9	ENE	27	OR	NC 42 @ Buckhorn United Methodist Church	4.8	SSW
4	SI	New Hill (Population Center), 0.7 mi. N on SR 1127 from intersection with US 1	3.1	NNE	28	OR	0.6mi. on SR 1924 from intersection of SR 1916.	4.8	SW
5	C	Pittsboro	13.3	WNW	29	OR	Parking Lot of Arclin, Inc. on SR 1916.	5.7	WSW
6	IR	Intersection of SR 1134 & SR 1135	0.8	ENE	30	OR	Exit intersection of SR 1972 and US 1	5.6	W
7	IR	Extension of SR 1134	0.7	E	31	OR	At intersection of SR 1908, 1909, 1910.	4.7	WNW
8	IR	Dead end of road. Extension of SR 1134.	0.6	ESE	32	SI	Jordan Lake (Population Center), SR 1008.	6.4	NNW
9	IR	1 mi. S on SR 1130 from intersection of SR 1127, 1115, and 1130.	2.2	SE	33	OR	SR 1142. 1.7 mi. from intersection of SR 1141.	4.5	NNW
10	IR	SR 1130 S of intersection of SR 1127, 1115, and 1130.	2.2	SSE	48	OR	SR 1142. 1.5 mi. from intersection of SR 1141.	4.5	N
11	IR	SHNPP site	0.6	S	49	IR	SR 1127. 0.3 mi. S from intersection with US 1.	2.5	NE
12	IR	SHNPP site	0.9	SSW	50	SI	Holleman Crossroad (Population Center), SR 1127 W from intersection SR 1115 and 1130.	2.6	ESE
13	IR	SHNPP site	0.7	WSW	53	OR	SR 1972 N from intersection of SR 1910 and SR 1972.	5.8	NW
14	IR	SHNPP site. Access road to aux. reservoir.	1.5	W	56	IR	SR 1912 at intersection of SR 1912 and SR 1924.	3.0	WSW
15	IR	SR 1911.	2.0	W	63	IR	SHNPP site	0.6	SW
19	OR	0.6 mi. E on SR 1142 from intersection of SR 1141.	5.0	NNE	93	IR	SR 1911	2.2	WNW
20	OR	US 1 at intersection SR 1149.	4.5	NE	94	IR	Old US HWY 1	2.0	NW
21	OR	1.2 mi. W on SR 1152 from intersection SR 1153.	4.8	ENE	95	IR	Bonsal Rd.	2.0	NNW
22	OR	Formerly Ragan's Dairy on SR 1115.	4.3	E	98	SI	Holly Springs School Complex (Population Center)	5.9	E
23	OR	Intersection of SR 1127 and SR 1116.	4.8	ESE	99	SI	Friendship High School (Population Center)	5.5	NNE
24	OR	Sweet Springs Church on SR 1116.	4.0	SE					

(1) GPS data reflect approximate accuracy to within 2-5 meters. GPS field measurements were taken as close as possible to the item of interest.



**TABLE 2.2-A**  
**REPORTING LEVELS FOR RADIOACTIVITY**  
**CONCENTRATIONS IN ENVIRONMENTAL SAMPLES**

Analysis	Water (pCi/liter)	Airborne Particulate or Gases (pCi/m <sup>3</sup> )	Fish (pCi/kg-wet)	Milk (pCi/liter)	Food Products (pCi/kg-wet)
H-3	20,000 <sup>(a)</sup>				
Mn-54	1,000		30,000		
Fe-59	400		10,000		
Co-58	1,000		30,000		
Co-60	300		10,000		
Zn-65	300		20,000		
Zr-Nb-95	400				
I-131	2 <sup>(b)</sup>	0.9		3	100
Cs-134	30	10	1,000	60	1,000
Cs-137	50	20	2,000	70	2,000
Ba-La-140	200			300	

(a) For drinking water samples. This is 40 CFR Part 141 value. If no drinking water pathway exists, a value of 30,000 pCi/liter may be used.  
(b) If no drinking water pathway exists, a value of 20 pCi/liter may be used.

**TABLE 2.2-B**  
**REMP ANALYSIS FREQUENCY**

Sample Medium	Analysis Schedule	Gamma Isotopic	Tritium	Low Level I-131	Gross Beta	TLD
Air Radioiodine	Weekly	X				
Air Particulate	Weekly				X	
	Quarterly	X				
Direct Radiation	Quarterly					X
Surface Water	Monthly Composite <sup>(d)</sup>	X	X		X	
Drinking Water	Monthly Composite <sup>(c)</sup>	X	X			
Ground Water	Quarterly	X	X			
Bottom Sediment	Semiannually	X				
Shoreline Sediment	Semiannually	X				
Milk	Semimonthly/Monthly	X		X		
Fish	Semiannually	X				
Aquatic Vegetation	Annually	X				
Broadleaf Vegetation	Monthly <sup>(a)</sup>	X				
Food Products	Monthly <sup>(b)</sup>	X				

(a) During growing season per ODCM - May through October  
(b) When Available  
(c) Low-level I-131 will be analyzed on each composite when the dose calculated for the consumption of the water is greater than 1 mrem/yr.  
(d) 1<sup>st</sup> quarter only; Analysis Discontinued (AR # 02240431)

**TABLE 2.2-C**

**DETECTION CAPABILITIES FOR THE *A PRIORI* LOWER LIMIT OF DETECTION**

Analysis	Water (pCi/liter)	Airborne Particulates or Gases (pCi/m <sup>3</sup> )	Fish (pCi/kg-wet)	Milk (pCi/liter)	Food Products (pCi/kg-wet)	Sediment (pCi/kg-dry)
Gross Beta	4	0.01				
H-3	2000 <sup>(a)</sup>					
Mn-54	15		130			
Fe-59	30		260			
Co-58, 60	15		130			
Zn-65	30		260			
Zr-Nb-95	15					
I-131	1 <sup>(b)</sup>	0.07		1	60	
Cs-134	15	0.05	130	15	60	150
Cs-137	18	0.06	150	18	80	180
Ba-La-140	15			15		

(a) If no drinking water pathway exists, a value of 3000 pCi/liter may be used.

(b) If no drinking water pathway exists, a value of 15 pCi/liter may be used.

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## 3.0 INTERPRETATION OF RESULTS

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Review of all 2018 REMP analysis results was performed to identify changes in environmental levels as a result of plant operations. The following section depicts and explains the review of these results. Sample data for 2018 was compared to historical data. Over the years of operation, analysis and collection changes have taken place that do not allow direct comparisons for some data collected from 1984 (preoperational) through 2018. Summary tables containing 2018 information required by Technical Specifications 6.9.1.3 and HNP ODCM E.3 are located in Appendix B. REMP results for 2018 are located in Appendix E.

Evaluation for significant trends was performed for radionuclides that are listed as required within the HNP ODCM. The radionuclides include: H-3, Mn-54, Fe-59, Co-58, Co-60, Zn-65, Zr-95, Nb-95, I-131, Cs-134, Cs-137, Ba-140 and La-140. Other radionuclides detected that are the result of plant operation, but not required for reporting, are trended.

The HNP ODCM addresses actions to be taken if radionuclides other than those required are detected in samples collected. The occurrences of these radionuclides could be the result of HNP liquid effluents which contained the radionuclides.

All 2018 sample analysis results were reviewed to detect and identify any significant trends. All negative concentration values were replaced with zero for calculation purposes. Any zero concentrations used in tables or graphs represent activity measurements less than detectable levels.

Review of the 2018 data presented in this section supports the conclusion that there were no significant changes in environmental sample radionuclide concentrations of samples collected and analyzed from HNP and surrounding areas that were attributable to plant operations. Inspection of the data showed that radioactivity concentrations were as expected and all positively identified measurements attributed to plant operations were within HNP ODCM regulatory limits; thus presenting no significant impact to the environment or public health and safety.

Data presented in Sections 3.1 through 3.12 support the conclusion that there was no significant increase in radioactivity in the environment around Harris Nuclear Plant due to station operations in 2018. Similarly, there was no significant increase in ambient background radiation levels in the surrounding areas. The 2018 land use census data, shown in Section 3.13, indicates that no program changes are required as a result of the census.

### 3.1 AIRBORNE RADIOIODINE AND PARTICULATES

In 2018, 468 radioiodine and particulate samples were analyzed, 416 from eight indicator locations and 52 at the control location. Particulate samples were analyzed weekly for gross beta. A quarterly gamma analysis was performed on the quarterly filter composite (by location).

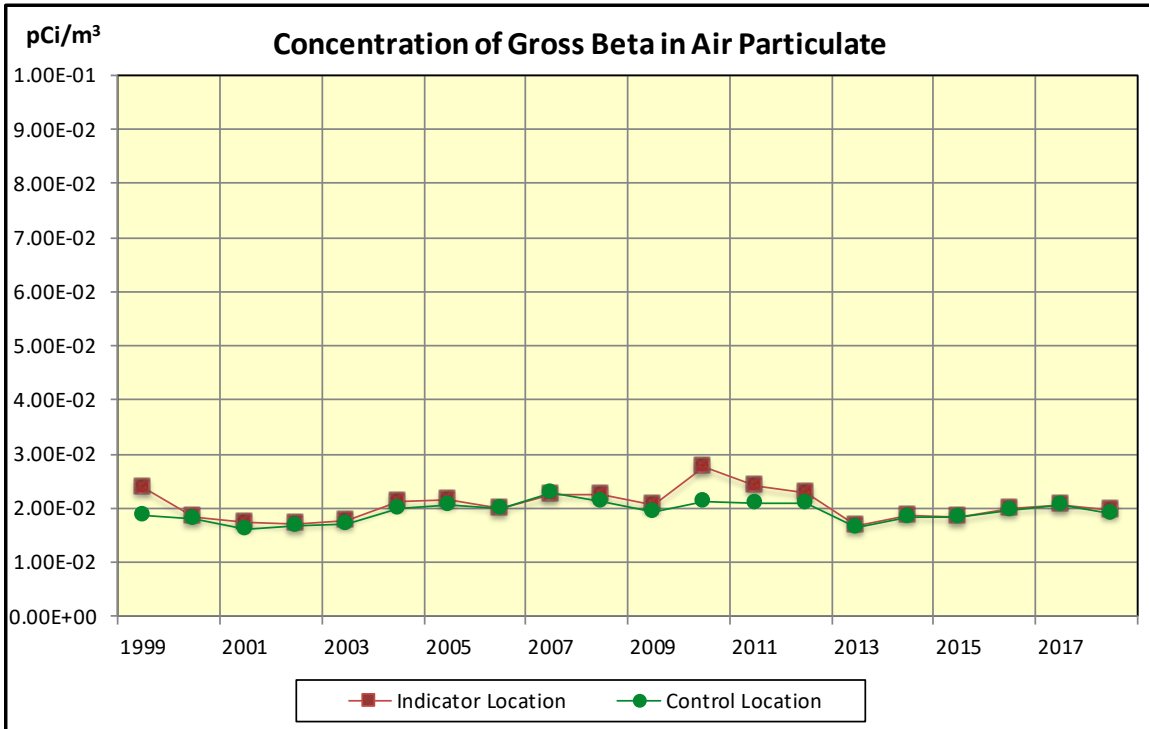
Figure 3.1 shows individual sample gross beta results for the indicator location with highest annual mean and the control location samples during 2018. The two sample locations' results are similar in concentration and have varied negligibly.

There were no detectable gamma emitters attributable to plant operations identified for particulate filters analyzed during 2018. Table 3.1-A shows the highest indicator annual mean and control location annual mean for gross beta in air particulate.

There was no detectable I-131 in air radioiodine samples analyzed in 2018. Table 3.1-B shows the highest indicator annual mean and control location annual mean for I-131 since 1999. The table shows similar concentrations for both the indicator and control locations. No I-131 activity due to HNP operations has been detected during the entire operating history of the plant.

K-40 and Be-7 were observed in air samples and quarterly particulate composites but are naturally occurring radionuclides.

Figure 3.1



*There is no reporting level for gross beta in air particulate*

**Table 3.1-A Mean Concentration of Gross Beta in Air Particulate**

Year	Indicator Location (pCi/m <sup>3</sup> )	Control Location (pCi/m <sup>3</sup> )
1999	2.38E-2	1.87E-2
2000	1.83E-2	1.80E-2
2001	1.74E-2	1.60E-2
2002	1.70E-2	1.67E-2
2003	1.78E-2	1.70E-2
2004	2.13E-2	2.00E-2
2005	2.14E-2	2.07E-2
2006	1.99E-2	1.98E-2
2007	2.26E-2	2.29E-2
2008	2.25E-2	2.13E-2
2009	2.07E-2	1.92E-2
2010	2.76E-2	2.12E-2
2011	2.40E-2	2.10E-2
2012	2.29E-2	2.10E-2
2013	1.67E-2	1.65E-2
2014	1.86E-2	1.82E-2
2015	1.82E-2	1.82E-2
2016	1.98E-2	1.95E-2
2017	2.06E-2	2.05E-2
2018	1.96E-2	1.89E-2

**Table 3.1-B Mean Concentration of Air Radioiodine (I-131)**

Year	Indicator Location (pCi/m <sup>3</sup> )	Control Location (pCi/m <sup>3</sup> )
1999	0.00E+0	0.00E+0
2000	0.00E+0	0.00E+0
2001	0.00E+0	0.00E+0
2002	0.00E+0	0.00E+0
2003	0.00E+0	0.00E+0
2004	0.00E+0	0.00E+0
2005	0.00E+0	0.00E+0
2006	0.00E+0	0.00E+0
2007	0.00E+0	0.00E+0
2008	0.00E+0	0.00E+0
2009	0.00E+0	0.00E+0
2010	0.00E+0	0.00E+0
2011 <sup>(1)</sup>	1.66E-1	1.08E-1
2012	0.00E+0	0.00E+0
2013	0.00E+0	0.00E+0
2014 <sup>(2)</sup>	0.00E+0	0.00E+0
2015	0.00E+0	0.00E+0
2016	0.00E+0	0.00E+0
2017	0.00E+0	0.00E+0
2018	0.00E+0	0.00E+0

0.00E+0 indicates no detectable measurements

(1) 2011 concentrations affected by Fukushima Dai-ichi

(2) 2014 Gamma spectroscopy system was replaced 10JUL2014. Gamma spectroscopy system hardware, detector cooling apparatus, software, electronics, nuclide identification libraries, and analytical test matrix components for test matrices were modified (NCR # 0739995). No analytical changes were observed due to the 2014 gamma spectroscopy system change.

### 3.2 DRINKING WATER

Gross beta analysis, tritium, and gamma spectroscopy were performed on 39 drinking water samples. Two indicator locations were sampled, along with one control location.

No gamma emitting radionuclides attributable to plant operations were identified in any 2018 drinking water samples. There have been no gamma emitting radionuclides attributable to plant operations identified in drinking water samples during the entire operating history of the plant.

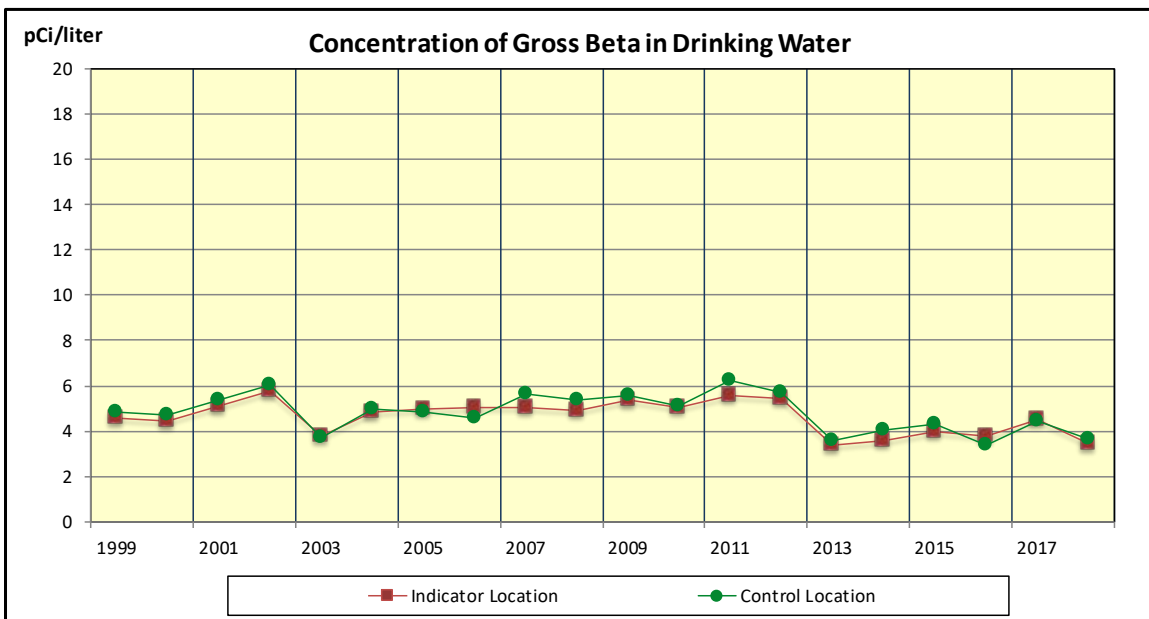
Figure 3.2-1 and Table 3.2 shows highest annual mean gross beta concentrations for the indicator locations and control location since 1999. The indicator locations (downstream of the plant effluent release point) average concentration was 3.48 pCi/l in 2018 and the control location concentration was 3.68 pCi/l. The table shows that current gross beta levels are not statistically different from 1999.

Tritium was detected in thirteen indicator samples from Location 51 and in no control samples during 2018. The mean indicator tritium concentration for 2018 was 3,270 pCi/l, 16.35% of reporting level. Figure 3.2-2 and Table 3.2 display the highest indicator and control location annual mean concentrations for tritium since 1999.

The dose for consumption of water was less than one mrem per year, historically and for 2018; therefore, low-level iodine analysis is not required.

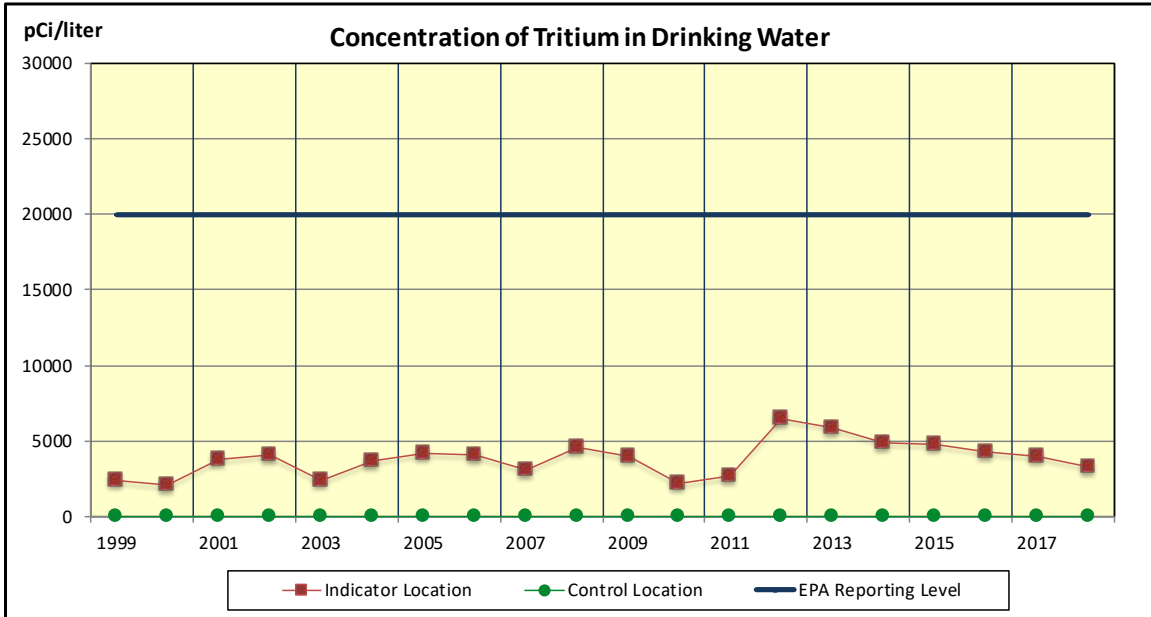
K-40 and Be-7 are naturally occurring radionuclides that were observed in drinking water samples in 2018.

**Figure 3.2-1**



*There is no reporting level for gross beta in drinking water*

Figure 3.2-2



Prior to 2009, drinking water indicator location # 51 was previously not classified as a public drinking water source. In 2009, location # 51 was classified as a public drinking water source; however, it is not a community drinking water source.

Table 3.2 Mean Concentration of Radionuclides in Drinking Water

YEAR	Gross Beta (pCi/l)		Tritium (pCi/l)	
	Indicator Location	Control Location	Indicator Location	Control Location
1999	4.55E+0	4.83E+0	2.37E+3	0.00E+0
2000	4.45E+0	4.73E+0	2.06E+3	0.00E+0
2001	5.11E+0	5.39E+0	3.76E+3	0.00E+0
2002	5.80E+0	6.03E+0	4.07E+3	0.00E+0
2003	3.81E+0	3.69E+0	2.40E+3	0.00E+0
2004	4.82E+0	4.96E+0	3.66E+3	0.00E+0
2005	4.95E+0	4.86E+0	4.20E+3	0.00E+0
2006	5.07E+0	4.58E+0	4.03E+3	0.00E+0
2007	5.01E+0	5.67E+0	3.12E+3	0.00E+0
2008	4.92E+0	5.40E+0	4.54E+3	0.00E+0
2009	5.37E+0	5.58E+0	3.95E+3	0.00E+0
2010	5.07E+0	5.09E+0	2.23E+3	0.00E+0
2011	5.58E+0	6.22E+0	2.65E+3	0.00E+0
2012	5.47E+0	5.69E+0	6.51E+3	0.00E+0
2013	3.37E+0	3.60E+0	5.89E+3	0.00E+0
2014	3.56E+0	4.06E+0	4.83E+3	0.00E+0
2015	3.97E+0	4.28E+0	4.74E+3	0.00E+0
2016	3.76E+0	3.40E+0	4.32E+3	0.00E+0
2017	4.52E+0	4.44E+0	4.02E+3	0.00E+0
2018	3.48E+0	3.68E+0	3.27E+3	0.00E+0

0.00E+0 indicates no detectable measurements

Prior to 2009, drinking water indicator location # 51 was previously not classified as a public drinking water source. In 2009, location # 51 was classified as a public drinking water source; however, it is not a community drinking water source.

### **3.3 SURFACE WATER**

A total of 39 monthly surface water samples were analyzed for gamma emitting radionuclides and tritium. Two indicator locations and one control location were sampled.

Location 26, Harris Lake Spillway, is the only indicator location sample that contained tritium with an average concentration of 7,460 pCi/l and showed a range of activities from 3,620 to 12,800 pCi/l. Tritium was not detected in the thirteen control samples collected during 2018.

No gamma emitting radionuclides attributable to plant operations were identified in 2018 surface water samples. Table 3.3 summarizes the indicator annual means of radionuclides detected since 1999. Visual inspection of the tabular data did not reveal any increasing trends.

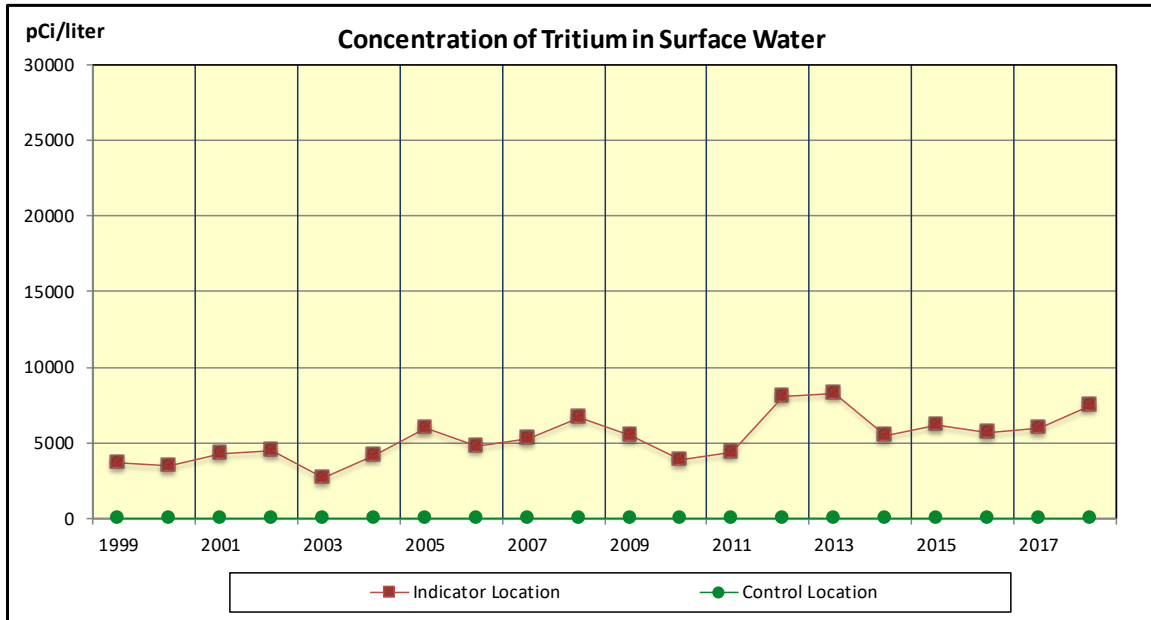
Surface water samples were only analyzed for Gross Beta in the first quarter of 2018. Gross Beta is not a required sample analysis per the HNP ODCM. Self-Assessment AR# 02240431 determined the gross beta analysis was not required and the analysis was discontinued. Average gross beta concentrations at the indicator and control locations during the first quarter of 2018 were 5.12 pCi/l and 4.72 pCi/l, respectively.

Figure 3.3 displays the highest indicator and control annual means for tritium since 1999.

K-40 and Be-7 are naturally occurring radionuclides that were observed in surface water samples in 2018.



Figure 3.3



There is no reporting level for tritium in surface water, however, if no drinking water pathway exists, a value of 30,000 pCi/l may be used.

**Table 3.3 Mean Concentrations of Radionuclides in Surface Water**

YEAR	Gross Beta (pCi/l)		Tritium (pCi/l)	
	Indicator Location	Control Location	Indicator Location	Control Location
1999	4.55E+0	4.83E+0	3.63E+3	0.00E+0
2000	4.45E+0	4.73E+0	3.52E+3	0.00E+0
2001	5.11E+0	5.39E+0	4.31E+3	0.00E+0
2002	5.80E+0	6.03E+0	4.49E+3	0.00E+0
2003	3.81E+0	3.69E+0	2.67E+3	0.00E+0
2004	4.82E+0	4.96E+0	4.20E+3	0.00E+0
2005	4.95E+0	4.86E+0	5.94E+3	0.00E+0
2006	5.07E+0	4.58E+0	4.73E+3	0.00E+0
2007	5.01E+0	5.67E+0	5.26E+3	0.00E+0
2008	5.11E+0	5.40E+0	6.68E+3	0.00E+0
2009	5.62E+0	5.58E+0	5.50E+3	0.00E+0
2010	5.23E+0	5.09E+0	3.83E+3	0.00E+0
2011	5.76E+0	6.22E+0	4.36E+3	0.00E+0
2012	6.66E+0	5.69E+0	8.08E+3	0.00E+0
2013	4.57E+0	3.60E+0	8.21E+3	0.00E+0
2014	4.27E+0	4.06E+0	5.44E+3	0.00E+0
2015	3.99E+0	4.28E+0	6.17E+3	0.00E+0
2016	4.03E+0	3.40E+0	5.68E+3	0.00E+0
2017	4.02E+0	4.05E+0	5.98E+3	0.00E+0
2018	5.12E+0 <sup>(1)</sup>	4.72E+0 <sup>(1)</sup>	7.46E+3	0.00E+0

0.00E+0 indicates no detectable measurements

(1) 1<sup>st</sup> quarter only; Analysis Discontinued (AR # 02240431)

### **3.4 GROUND WATER**

Eighteen indicator ground water sample locations were sampled quarterly on site at HNP, there is no control location. In total, seventy-two ground water samples were analyzed for gamma emitters and tritium in 2018. The measured ground water gamma and tritium concentrations were below environmental requirements stated in the HNP ODCM.

No gamma emitting radionuclides attributable to plant operations were identified in 2018 ground water samples.

Tritium was detected in some ground water samples, ranging from 174 pCi/l to 1,160 pCi/l in 2018; however, the results are well below the EPA reportable drinking water limit (20,000 pCi/l) and non-drinking water limit (30,000 pCi/l). The ground water wells, located on site at HNP, are monitoring wells and are not a water supply for drinking or irrigation. Therefore, there is no radiological dose via this pathway.

K-40 and Be-7 are naturally occurring radionuclides that were observed in ground water samples in 2018.

### 3.5 MILK

A total of 31 milk samples were analyzed by gamma spectroscopy and low-level iodine during 2018. One indicator goat milk location was sampled from late spring to late fall and one control cow milk location was sampled the entire year.

There were no gamma emitting radionuclides attributable to plant operations identified in milk samples in 2018. Cs-137 was identified in one goat milk sample collected in October of 2018 (NCR # 02243290). An evaluation was conducted in 2018 (AR # 02243634) to determine if any further actions were warranted. The outcome of this study deemed that there is no risk to the public and the Cs-137 most likely is from past nuclear weapons testing. In the 1950s and 1960s, Cs-137 was released during bomb testing and fallout occurred over the Earth. Trees and vegetation grown in contaminated soil concentrated the Cs-137 into their leaves and wood. Plant leaves can be consumed by grazing animals, such as goats and cows, and the radioactivity transferred into the animals' milk. Broadleaf vegetation samples show that Cs-137 is naturally present in the environment in the area and likely influenced the positive result.

K-40 and Be-7 are naturally occurring radionuclides that were observed in milk samples in 2018.

### 3.6 BROADLEAF VEGETATION

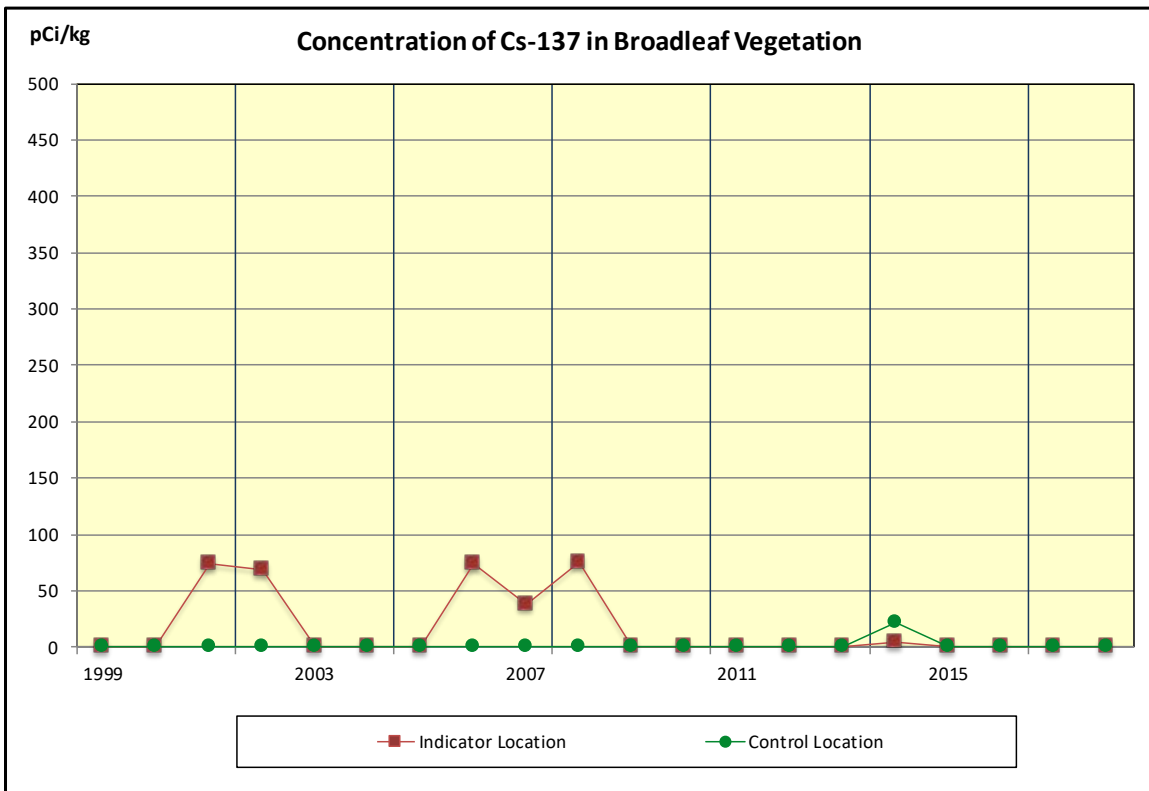
In lieu of the monthly indicator milk samples, per HNP ODCM, indicator broadleaf vegetation samples were collected in both the SW and SSW sectors of HNP. Broadleaf sampling is conducted to simulate dose to an individual via the milk pathway for compliance purposes.

Gamma spectroscopy was performed on 18 broadleaf vegetation samples during 2018 during the growing season (May through October). Two indicator locations and one control location were sampled.

No gamma emitting radionuclides, other than naturally occurring, were reported in vegetation samples. However, it is not unusual for Cs-137 to be present in vegetation. It is a constituent of nuclear weapons test fallout and nuclear plant accidents and has been observed in samples from indicator and control locations in the past. Figure 3.6 and Table 3.6 shows the mean activity of Cs-137 at the indicator and control locations.

K-40 and Be-7 are naturally occurring radionuclides that were observed in broadleaf vegetation samples in 2018.

Figure 3.6



**Table 3.6 Mean Concentration of Cs-137 in Broadleaf Vegetation**

<b>Year</b>	<b>Indicator Location (pCi/kg)</b>	<b>Control Location (pCi/kg)</b>
1999	0.00E+0	0.00E+0
2000	0.00E+0	0.00E+0
2001	7.39E+1	0.00E+0
2002	6.86E+1	0.00E+0
2003	0.00E+0	0.00E+0
2004	0.00E+0	0.00E+0
2005	0.00E+0	0.00E+0
2006	7.35E+1	0.00E+0
2007	3.77E+1	0.00E+0
2008	6.23E+1	0.00E+0
2009	0.00E+0	0.00E+0
2010	0.00E+0	0.00E+0
2011	0.00E+0	0.00E+0
2012	0.00E+0	0.00E+0
2013	0.00E+0	0.00E+0
2014	4.77E+0	2.20E+1
2015	0.00E+0	0.00E+0
2016	0.00E+0	0.00E+0
2017	0.00E+0	0.00E+0
2018	0.00E+0	0.00E+0

### **3.7 FOOD PRODUCTS**

The HNP Land Use Census (LUC) has never identified any gardens irrigated by water in which liquid plant wastes have been discharged; therefore, food product collection is not required. There is no indicator location for this media type and sampling at a control location is maintained for historical integrity.

During the 2018 growing season twenty-eight samples were collected and analyzed for gamma radionuclides. From January to August, the three different species of food products collected from the one location were analyzed individually for gamma emitters. In September, this was changed to a single mixed food product sample (AR # 02227572).

Gamma analyses of the food products detected no plant-related activity in any of the twenty-eight samples from control location #97 collected in 2018.

K-40 and Be-7 are naturally occurring radionuclides that were observed in food product samples in 2018.

### **3.8 AQUATIC VEGETATION**

The 2018 data shows that there were three aquatic vegetation indicator samples and two control samples collected from Harris Lake, which are sampled annually. The aquatic vegetation samples (Lyngbya and Hydrilla) from Harris Lake are not consumed by humans, thus pose no radiological dose to the general public by the ingestion pathway.

Gamma analyses of the aquatic vegetation detected historical plant-related activity in the two indicator samples and the one control sample collected during 2018. Cs-137 activity was detected with a concentration of 8.31 pCi/kg at Location #41, which is 3.8 miles S of the plant (NCR # 02236885). An evaluation was conducted in 2018 (AR # 02243634) to determine if any further actions were warranted. The positive detection was caused by a change in the collection species. Historically, Hydrilla has been collected and analyzed for gamma emitters but due to Harris Lake Hydrilla control measures there was inadequate supply of this species so Lyngbya was collected. Lyngbya is a blue green alga mat that floats along the lake surface. The vegetation is not consumed by fish, so it tends to be long lived and less controlled. Since Harris Lake is the recipient of radioactive discharges, the Lyngbya may be accumulating Cs-137 from the water as it floats around the lake surface. Because of the free-floating nature of Lyngbya, the positive detection of Cs-137 should be anticipated and does not indicate an unusual accumulation of Cs-137 in the Harris Lake environment.

No long-term trends have been readily observed in these samples.

K-40 and Be-7 are naturally occurring radionuclides that were observed in aquatic vegetation samples in 2018.

### **3.9 FISH**

Gamma spectroscopy was performed on 12 fish samples collected during 2018; four samples of bottom-feeding species (catfish) and eight samples of free-swimming species (sunfish and largemouth bass) from the indicator and control locations.

There were no gamma emitting radionuclides attributable to plant operations identified in any fish samples in 2018.

K-40 and Be-7 are naturally occurring radionuclides that were observed in fish samples collected during 2018.



### **3.10 SHORELINE SEDIMENT**

Shoreline sediment samples were collected semiannually in 2018 from two indicator locations. There is no control location for this sample media type.

Gamma analyses of the four shoreline sediments detected natural activity in the samples collected during 2018. No long-term trends are readily observed in these samples.

K-40 and Be-7 are naturally occurring radionuclides that were observed in shoreline sediment samples collected during 2018.

### 3.11 BOTTOM SEDIMENT

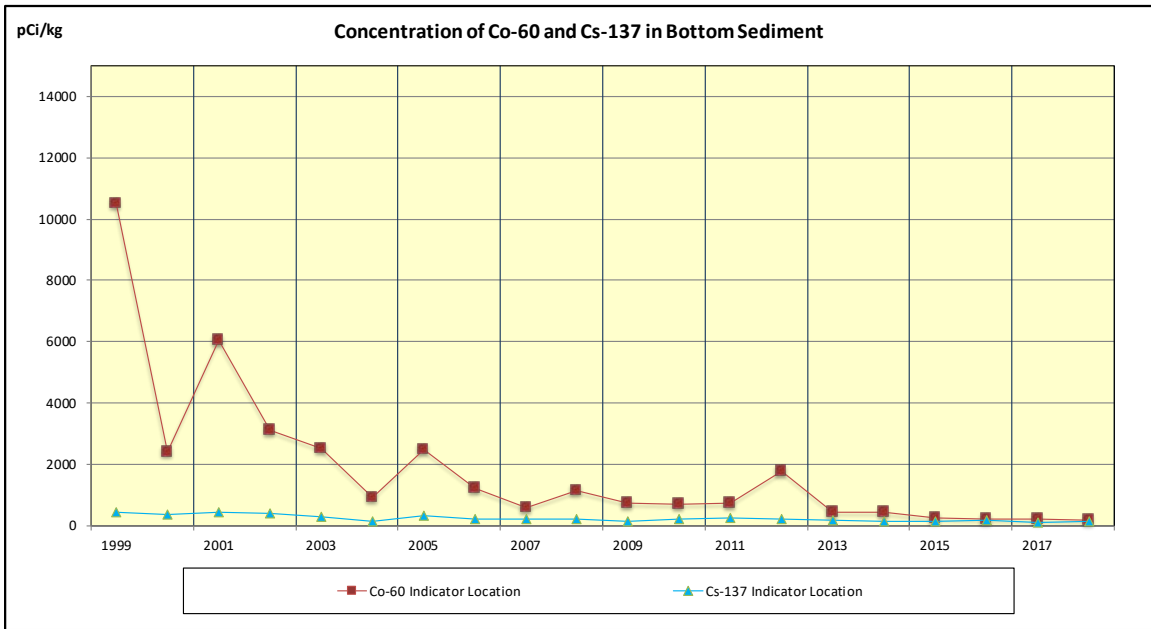
During 2018, a total of two bottom sediment samples were analyzed from the indicator location. There is no control location for bottom sediment.

The 2018 data indicated an annual average mean activity of 177 pCi/kg of Co-60, and 125 pCi/kg of Cs-137 activity in the indicator samples which are sampled semiannually. The bottom sediment sample from Harris Lake poses no radiological dose to the general public via this pathway due to the fact that it is not easily accessible (i.e. bottom sediment is approximately forty to sixty feet underwater). The positive detection most likely is from past nuclear weapons testing and historical plant discharges. These samples are for long-term trends for liquid effluent monitoring.

Figure 3.11 and Table 3.11 provide individual sample gamma results for the highest annual mean indicator location concentrations since 1999 for Co-60 and Cs-137.

Naturally occurring K-40 was observed in some bottom sediment samples collected during 2018.

**Figure 3.11**



*There is no reporting level for Co-60 or Cs-137 in Bottom Sediment.*

**Table 3.11 Mean Concentration of Radionuclides in Bottom Sediment**

YEAR	Control Location	Co-60 (pCi/kg) Indicator Location	Cs-137 (pCi/kg) Indicator Location
1999	No Control	1.05E+4	4.40E+2
2000	No Control	2.42E+3	3.69E+2
2001	No Control	6.03E+3	4.20E+2
2002	No Control	3.12E+3	3.91E+2
2003	No Control	2.52E+3	2.78E+2
2004	No Control	9.17E+2	1.52E+2
2005	No Control	2.49E+3	3.33E+2
2006	No Control	1.23E+3	2.11E+2
2007	No Control	5.92E+2	2.15E+2
2008	No Control	1.15E+3	1.99E+2
2009	No Control	7.50E+2	1.50E+2
2010	No Control	6.84E+2	2.23E+2
2011	No Control	7.30E+2	2.43E+2
2012	No Control	1.79E+3	2.19E+2
2013	No Control	4.20E+2	1.94E+2
2014 <sup>(1)</sup>	No Control	4.31E+2	1.26E+2
2015	No Control	2.66E+2	1.39E+2
2016	No Control	2.13E+2	1.85E+2
2017	No Control	2.14E+2	8.35E+1
2018	No Control	1.77E+2	1.25E+2

(1) 2014 Gamma spectroscopy system was replaced 10JUL2014. Gamma spectroscopy system hardware, detector cooling apparatus, software, electronics, nuclide identification libraries, and analytical test matrix components for test matrices were modified (NCR # 0739995). No analytical changes were observed due to the 2014 gamma spectroscopy system change.

## **3.12 DIRECT GAMMA RADIATION**

### **3.12.1 ENVIRONMENTAL TLD**

The Harris Updated Final Safety Analysis Report (UFSAR) Section 2.1.1.2 identifies that the minimum distance ( $\pm 25$  ft.) and direction from the reactor to an exclusion area boundary is 6790 ft. ESE. This is the same boundary established for determining radioactive effluent release limits. No permanent public access is permitted within the exclusion area. Harris has forty-one routine monitoring stations. TLD locations designated as "inner ring" are located in each of the sixteen meteorological sectors in the general area of the Site Boundary. The inner ring TLDs are used as indicators. TLD locations designated as "outer ring" are outside the Site Boundary, located in each of the sixteen meteorological sectors, and are within 6 – 8 km from the site. All outer ring TLD locations are used as indicators. The balance of the stations are placed in locations such as population centers, nearby residences, or schools and are designated as "special interest" and one "control" location. These locations were chosen to reduce the probability of influence from Harris operation on data. The control locations are not used as background subtraction in the TLD analysis. Their purpose is to provide a comparison to indicator locations.

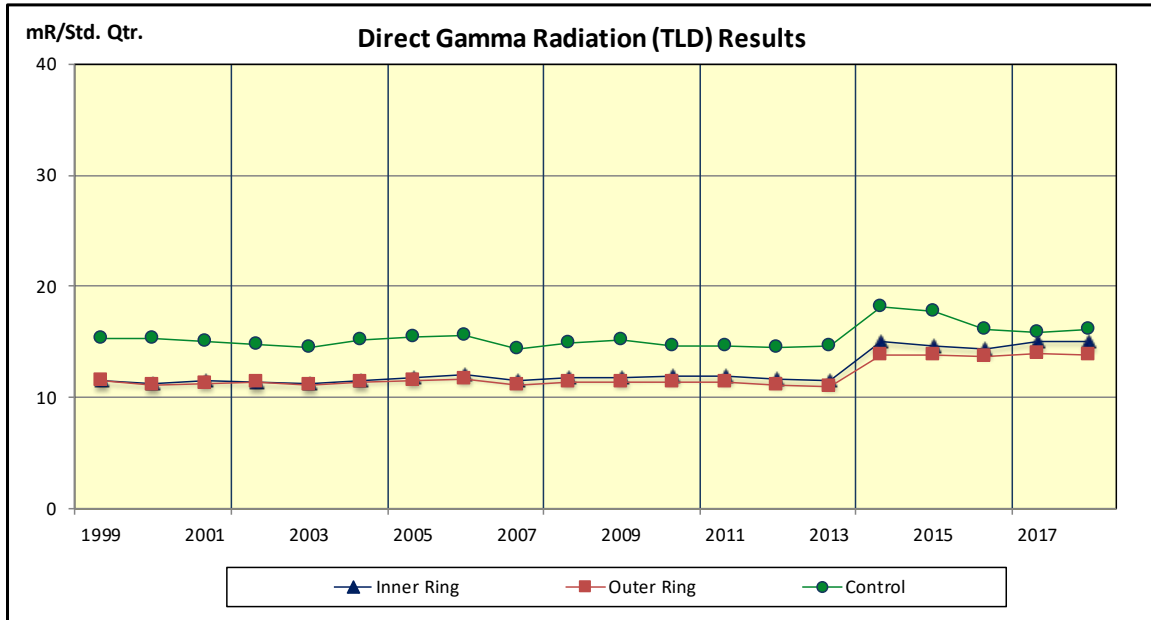
Thermoluminescent dosimeters (TLDs) were used to monitor ambient radiation exposures in the plant environs. In 2018, 161 TLDs were analyzed, 157 at indicator locations and 4 at the control location. TLDs are collected and analyzed quarterly. The TLD with the highest annual mean was 17.5 mR/Std Qtr. at indicator location #94, 2.0 miles NW of plant center.

Comparison of the average annual TLD exposure within the area of the Site Boundary (inner ring) of the plant with at a distance of 6 – 8 km (outer ring) and the "special interest" and control since 1999 is presented in Figure 3.12 and Table 3.12.

As of first quarter 2014, the environmental TLDs that are placed in the field for REMP are Harshaw TLDs. Panasonic TLDs were the type of environmental TLDs for REMP monitoring prior to 2014. This change was a merger initiative in order to achieve fleet standardization of the TLD program. This change in environmental TLDs for the REMP indicates a step change in activity as mentioned in NCR # 01982479 between the Panasonic TLD readings prior to 2014 and the Harshaw TLD readings from 2014 to present. There are three factors that can be attributed to the step increase that was observed: (1) the annealing method levels employed were lower for the Panasonic TLDs, (2) transit control subtraction differences, and (3) the calculation/method of fade correction (fixed fade control - vs - actual in field TLDs). Data accrual began in 2016 for enhanced analytical methods which will be evaluated for future implementation when sufficient data is available. The new methods will improve data transparency and interpretation.

A TLD intercomparison program is conducted as part of the quality assurance program. Results of this program are included in Section 4.7.

Figure 3.12



*There is no reporting level for Direct Radiation (TLD).*

**Table 3.12 Direct Gamma Radiation (TLD) Results**

<b>Year</b>	<b>Inner Ring Average (mR/Std. Qtr.)</b>	<b>Outer Ring Average (mR/Std. Qtr.)</b>	<b>Control Average (mR/Std. Qtr.)</b>
1999	1.15E+1	1.15E+1	1.53E+1
2000	1.13E+1	1.12E+1	1.54E+1
2001	1.15E+1	1.13E+1	1.50E+1
2002	1.14E+1	1.14E+1	1.48E+1
2003	1.13E+1	1.11E+1	1.45E+1
2004	1.16E+1	1.14E+1	1.52E+1
2005	1.18E+1	1.15E+1	1.55E+1
2006	1.21E+1	1.16E+1	1.55E+1
2007	1.15E+1	1.12E+1	1.43E+1
2008	1.18E+1	1.15E+1	1.49E+1
2009	1.18E+1	1.15E+1	1.51E+1
2010	1.19E+1	1.14E+1	1.47E+1
2011	1.19E+1	1.14E+1	1.47E+1
2012	1.17E+1	1.11E+1	1.46E+1
2013	1.15E+1	1.09E+1	1.47E+1
2014	1.50E+1	1.39E+1	1.82E+1
2015	1.46E+1	1.38E+1	1.78E+1
2016	1.44E+1	1.37E+1	1.61E+1
2017	1.50E+1	1.39E+1	1.59E+1
2018	1.50E+1	1.38E+1	1.61E+1

### **3.13 LAND USE CENSUS**

The 2018 HNP Annual Land Use Census was conducted July 24 and 25, 2018, as required by the HNP ODCM 4.12.2. Table 3.13 summarizes the comparison between the 2017 and 2018 census results. A map indicating identified locations is shown in Figure 3.13.

During the 2018 census no irrigated gardens, no new meat animals nearer than existing gardens, or new milk locations were identified. The nearest residence is located in the NNW sector at 1.55 miles. No environmental program changes were required as a result of the 2018 land use census.

**Table 3.13 Harris Land Use Census Comparison (2017 – 2018)**

**Nearest Pathway (Miles)**

SECTOR	RESIDENCE		GARDEN		MEAT ANIMAL <sup>(1)</sup>		MILK ANIMAL	
	2017	2018	2017	2018	2017	2018	2017	2018
North	2.21	2.21	2.29	2.29	2.21	2.21	4.14 <sup>(2)</sup>	4.14 <sup>(2)</sup>
North-Northeast	1.81	1.81	1.81	1.81	---	---	---	---
Northeast	2.43	2.29*	2.92	2.92	---	---	---	---
East-Northeast	1.78	1.78	2.06	---*	2.01	2.01	---	---
East	1.88	1.88	2.16	2.16	---	---	---	---
East-Southeast	2.73	2.73	2.83	2.83	---	---	---	---
Southeast	4.11	4.11	4.11	4.11	4.11	---*	---	---
South-Southeast	4.26	4.26	4.26	4.26	---	---	---	---
South	---	---	---	---	---	---	---	---
South-Southwest	3.82	3.82	4.13	4.13	---	---	---	---
Southwest	2.76	2.76	---	---	---	---	---	---
West-Southwest	4.29	4.29	4.29	4.29	---	---	---	---
West	2.75	2.75	2.75	4.19*	---	---	2.82 <sup>(3)</sup>	2.82 <sup>(3)</sup>
West-Northwest	2.13	2.13	4.33	3.75*	---	---	---	---
Northwest	2.24	2.24	3.17	3.17	---	---	---	---
North-Northwest	1.55	1.55	1.82	1.82	1.82	1.82	---	---

Sector and distance determined by Global Positioning System.

\* Represents a change from the previous year.

--- Indicates no occurrences within the 5 mile radius

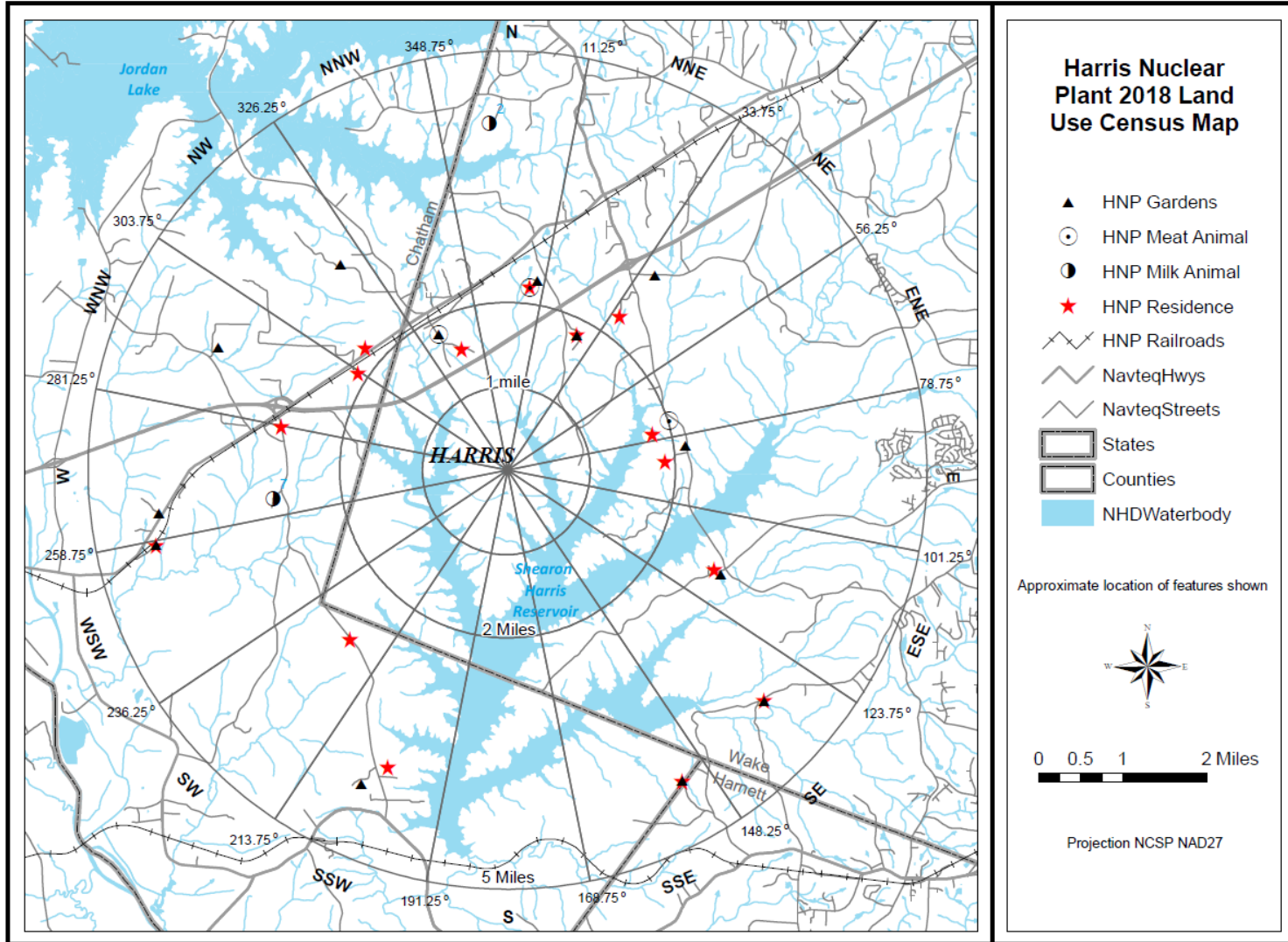
(1) Meat animal was only identified at the nearest garden or closer in each sector. Poultry and egg laying animals were not classified as meat animals for the 2018 census.

(2) Goat Milk - Milk is used to feed goat kids, make a small quantity of cheese, and to make soap for personal use. Owner said they can now supply enough milk to participate in the HNP REMP. This dairy is not required due to HNP already having a dairy within 5 km (3.11 miles) and the dose being <1.0 mRem/year.

(3) Goat Milk - Milk is used to feed goat kids during the breeding months and the family consumes what is left. The milk that is not suitable for consumption is given to someone to make soap. This location participates in the REMP and milk is collected for 4 - 6 consecutive months per year (Late-Spring to Late-Fall months).



Figure 3.13



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# 4.0 QUALITY ASSURANCE

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## 4.1 SAMPLE COLLECTION

EnRad Laboratories and Environmental Services performed the environmental sample collections as specified by approved sample collection procedures.

## 4.2 SAMPLE ANALYSIS

EnRad Laboratories and General Engineering Laboratories (GEL), LLC performed the environmental sample analyses as specified by approved analysis procedures. EnRad Laboratories is located in Huntersville, North Carolina, at Duke Energy's Environmental Center. GEL is located in Charleston, South Carolina.

## 4.3 DOSIMETRY ANALYSIS

The Dosimetry and Records group performed the environmental dosimetry measurements as specified by approved dosimetry analysis procedures. The Dosimetry and Records Laboratory is located in Huntersville, North Carolina, at Duke Energy's Environmental Center.

## 4.4 LABORATORY EQUIPMENT QUALITY ASSURANCE

### 4.4.1 DAILY QUALITY CONTROL

EnRad Laboratories has an internal quality assurance program which monitors each type of instrumentation for reliability and accuracy. Daily quality control checks ensure that instruments are in proper working order and these checks are used to monitor instrument performance.

### 4.4.2 CALIBRATION VERIFICATION

National Institute of Standards and Technology (NIST) standards that represent counting geometries are analyzed as unknowns at various frequencies ranging from weekly to annually to verify that efficiency calibrations are valid. The frequency is dependent upon instrument use and performance. Investigations are performed and documented should calibration verification data fall outside of the acceptable limits.

### 4.4.3 BATCH PROCESSING

Method quality control samples are analyzed with sample analyses that are processed in batches. These include tritium analyses in drinking water, surface water, and ground water samples.

## **4.5 DUKE ENERGY INTERLABORATORY COMPARISON PROGRAM**

In 2018 Duke Energy Environmental Laboratory (EnRad) participated in interlaboratory programs to satisfy Radiological Environmental Monitoring Program requirements in Duke Energy nuclear plant Offsite Dose Calculation Manuals and Selected Licensee Commitments Manuals, as applicable.

EnRad Laboratory participated in an interlaboratory program with Eckert & Ziegler Analytics (EZA) in 2018. EZA results were evaluated against the NRC Inspection Manual Procedure 84750 (IP 84750) acceptance criteria stated in EnRad Procedure 515, Cross Check Program Administration. All regulatory requirements continue to be met by the EZA Cross Check Program.

### **4.5.1 ECKERT & ZIEGLER ANALYTICS CROSS CHECK PROGRAM**

EZA mixed gamma in liquid, mixed gamma in soil, low-level I-131 in liquid, mixed gamma air filter composites, I-131 air cartridges, strontium in water, gross alpha and beta in water, gross alpha and beta in filters, and tritium in water were analyzed at various times of the year at EnRad Laboratories. A summary of the applicable REMP EnRad Laboratory program results for 2018 is documented in Table 4.0-A.

Interlaboratory cross check samples from EZA were received and analyzed in three of the four quarters of 2018. Table 4.0-A lists the performance for specific samples. Forty-six nuclide results were reported to EZA of which forty-six (100 %) met the acceptance criteria based on IP 84750.

## **4.6 STATE OF NORTH CAROLINA INTERCOMPARISON PROGRAM**

Harris Nuclear Power Plant routinely participates in an environmental sample intercomparison program. Program elements include sampling frequency and analysis parameters for surface water, ground water, cow milk, air particulate, air radioiodine, fish, bottom sediment, and shoreline sediment samples that have been collected. Samples are routinely split with the State of North Carolina for intercomparison analysis for Harris Nuclear Plant.

## **4.7 TLD INTERCOMPARISON PROGRAM**

### **4.7.1 NUCLEAR TECHNOLOGY SERVICES INTERCOMPARISON PROGRAM**

Radiation Dosimetry and Records participates in a quarterly TLD intercomparison program administered by Nuclear Technology Services, Inc. of Roswell, GA. Nuclear Technology Services irradiates environmental dosimeters quarterly and sends them to the Radiation Dosimetry and Records group for analysis of the unknown estimated delivered exposure. A summary of the 2018 Nuclear Technology Services Intercomparison Report is documented in Table 4.0-B.

The individual measurements were evaluated and results falling outside the acceptable ratio criteria had an evaluation performed to identify any recommended remedial actions and to reduce anomalous errors.

#### **4.7.2 INTERNAL CROSS CHECK (DUKE ENERGY)**

Radiation Dosimetry and Records participates in a quarterly TLD internal comparison program administered internally by the Dosimetry Lab. The Dosimetry Lab Staff irradiates environmental dosimeters quarterly and submits them for analysis of the unknown estimated delivered exposure. A summary of the 2018 Internal Cross Check (Duke Energy) Program is documented in Table 4.0-B.

### **4.8 GENERAL ENGINEERING LABORATORY, LLC (GEL)**

General Engineering Laboratory, LLC (GEL) participated in various Quality Assurance Programs for Inter-laboratory, Intra-laboratory, Third Party Cross Check programs, and a number of proficiency testing programs during 2018. A summary of the GEL quality assurance program results for the sample media types sent to GEL during 2018 is documented in Table 4.0-C. Table 4.0-C may not be applicable to all plants or stations.

# TABLE 4.0-A

## ECKERT & ZIEGLER ANALYTICS

### CROSS CHECK PROGRAM

#### 2018 Cross Check Results for EnRad Laboratories

Interlaboratory cross check samples from EZA were received and analyzed in three of the four quarters of 2018. Results are reported directly to Eckert & Ziegler Analytics. Environmental cross check samples were analyzed in replicate, and the result closest to the mean is reported to Eckert & Ziegler Analytics. The acceptance criteria for the program was based on the NRC Inspection Manual Procedure 84750 (IP 84750). Table 4.0-A lists the performance for specific samples. Forty-six nuclide results were reported to EZA of which forty-six (100 %) met the acceptance criteria based on IP 84750.

Sample	Sample ID	Nuclide	Quarter	Units	EnRad Value	EZA Value	EnRad/EZA Ratio	Evaluation
Beta Filter in Planchet	E12096	Cs-137	1	pCi	212	207	1.02	Agreement
	E12180	Cs-137	2	pCi	202	210	0.96	Agreement
I-131 in Charcoal Cartridge	E12095	I-131	1	pCi	99.2	95.3	1.04	Agreement
	E12246	I-131	3	pCi	82.0	81.6	1.00	Agreement
Gamma in Composite Filter	E12094	Ce-141	1	pCi	83.8	82.0	1.02	Agreement
		Co-58	1	pCi	124	121	1.02	Agreement
		Co-60	1	pCi	197	199	0.99	Agreement
		Cr-51	1	pCi	349	347	1.01	Agreement
		Cs-134	1	pCi	180	191	0.94	Agreement
		Cs-137	1	pCi	192	183	1.05	Agreement
		Fe-59	1	pCi	160	148	1.08	Agreement
		Mn-54	1	pCi	138	140	0.99	Agreement
		Zn-65	1	pCi	283	260	1.09	Agreement
Gamma in Simulated Soil	E12249	Ce-141	3	pCi/g	0.217	0.221	0.98	Agreement
		Co-58	3	pCi/g	0.239	0.248	0.96	Agreement
		Co-60	3	pCi/g	0.317	0.328	0.97	Agreement
		Cr-51	3	pCi/g	0.407	0.457	0.89	Agreement
		Cs-134	3	pCi/g	0.207	0.212	0.98	Agreement
		Cs-137	3	pCi/g	0.311	0.330	0.94	Agreement
		Fe-59	3	pCi/g	0.196	0.206	0.95	Agreement
		Mn-54	3	pCi/g	0.309	0.289	1.07	Agreement
		Zn-65	3	pCi/g	0.362	0.347	1.04	Agreement

## TABLE 4.0-A (Cont.)

Sample	Sample ID	Nuclide	Quarter	Units	EnRad Value	EZA Value	EnRad/EZA Ratio	Evaluation
Gamma in Water	E12250	Ce-141	3	pCi/L	146	137	1.07	Agreement
		Co-58	3	pCi/L	164	153	1.07	Agreement
		Co-60	3	pCi/L	215	202	1.06	Agreement
		Cr-51	3	pCi/L	307	282	1.09	Agreement
		Cs-134	3	pCi/L	127	131	0.97	Agreement
		Cs-137	3	pCi/L	169	157	1.07	Agreement
		Fe-59	3	pCi/L	138	127	1.08	Agreement
		I-131	3	pCi/L	64.7	62.5	1.04	Agreement
		Mn-54	3	pCi/L	193	178	1.08	Agreement
		Zn-65	3	pCi/L	240	214	1.12	Agreement
Gamma in Milk	E12097	Ce-141	1	pCi/L	79.4	77.0	1.03	Agreement
		Co-58	1	pCi/L	116	114	1.02	Agreement
		Co-60	1	pCi/L	192	187	1.03	Agreement
		Cr-51	1	pCi/L	335	326	1.03	Agreement
		Cs-134	1	pCi/L	174	180	0.97	Agreement
		Cs-137	1	pCi/L	183	172	1.06	Agreement
		Fe-59	1	pCi/L	151	139	1.09	Agreement
		Mn-54	1	pCi/L	141	131	1.07	Agreement
		Zn-65	1	pCi/L	266	244	1.09	Agreement
LLI-131 in Milk	E12097	I-131	1	pCi/L	101	108	0.93	Agreement
Gross Beta in Water	E12178	Cs-137	2	pCi/L	224	226	0.99	Agreement
	E12248	Cs-137	3	pCi/L	174	199	0.88	Agreement
Tritium in Water	E12179	H-3	2	pCi/L	11300	11000	1.02	Agreement
	E12247	H-3	3	pCi/L	13100	12900	1.00	Agreement

# TABLE 4.0-B

## 2018 ENVIRONMENTAL DOSIMETER

### CROSS-CHECK RESULTS

#### Nuclear Technology Services

Radiation Dosimetry and Records participates in a quarterly TLD intercomparison program administered by Nuclear Technology Services, Inc. of Roswell, GA. Nuclear Technology Services irradiates environmental dosimeters quarterly and sends them to Radiation Dosimetry and Records group for analysis of the unknown estimated delivered exposure. The individual measurements were evaluated and results falling outside the acceptable ratio criteria had an evaluation performed to identify any recommended remedial actions and to reduce anomalous errors.

1st Quarter 2018						2nd Quarter 2018					
TLD Number	Reported (mR)	Delivered (mR)	Bias (% diff)	Pass/Fail Criteria	Pass/Fail	TLD Number	Reported (mR)	Delivered (mR)	Bias (% diff)	Pass/Fail Criteria	Pass/Fail
103109	84.34	76.32	10.51	<+/-15%	Pass	100476	57.72	60.80	-5.07	<+/-15%	Pass
103168	83.20	76.32	9.01	<+/-15%	Pass	101207	59.63	60.80	-1.92	<+/-15%	Pass
102842	79.60	76.32	4.30	<+/-15%	Pass	100628	58.40	60.80	-3.95	<+/-15%	Pass
102197	79.34	76.32	3.96	<+/-15%	Pass	100232	54.45	60.80	-10.44	<+/-15%	Pass
102240	79.98	76.32	4.80	<+/-15%	Pass	103236	58.36	60.80	-4.01	<+/-15%	Pass
Average Bias (B)			6.51			Average Bias (B)			-5.08		
Standard Deviation (S)			3.03			Standard Deviation (S)			3.21		
Measure Performance  B +S			9.54	<15%	Pass	Measure Performance  B +S			8.29	<15%	Pass
3rd Quarter 2018						4th Quarter 2018					
TLD Number	Reported (mR)	Delivered (mR)	Bias (% diff)	Pass/Fail Criteria	Pass/Fail	TLD Number	Reported (mR)	Delivered (mR)	Bias (% diff)	Pass/Fail Criteria	Pass/Fail
102475	18.69	18.84	-0.80	<+/-15%	Pass	103532	67.52	61.93	9.03	<+/-15%	Pass
100674	18.66	18.84	-0.96	<+/-15%	Pass	102805	67.74	61.93	9.38	<+/-15%	Pass
100287	17.66	18.84	-6.96	<+/-15%	Pass	103209	66.84	61.93	7.93	<+/-15%	Pass
101172	18.23	18.84	-3.24	<+/-15%	Pass	103347	69.03	61.93	11.46	<+/-15%	Pass
101202	18.48	18.84	-1.91	<+/-15%	Pass	103399	67.21	61.93	8.53	<+/-15%	Pass
Average Bias (B)			-2.63			Average Bias (B)			9.27		
Standard Deviation (S)			2.25			Standard Deviation (S)			1.35		
Measure Performance  B +S			4.88	<15%	Pass	Measure Performance  B +S			10.61	<15%	Pass

# TABLE 4.0-B (Cont.)

## 2018 ENVIRONMENTAL DOSIMETER

### CROSS CHECK RESULTS

#### Internal Crosscheck (Duke Energy)

Radiation Dosimetry and Records participates in a quarterly TLD internal comparison program administered internally by the Dosimetry Lab. The Dosimetry Lab Staff irradiates environmental dosimetry quarterly and submits them for analysis of the unknown estimated delivered exposure.

1st Quarter 2018						2nd Quarter 2018						
TLD Number	Reported (mR)	Delivered (mR)	Bias (% diff)	Pass/Fail Criteria	Pass/Fail	TLD Number	Reported (mR)	Delivered (mR)	Bias (% diff)	Pass/Fail Criteria	Pass/Fail	
103932	34.28	37.26	-7.99	<+/-15%	Pass	103049	20.41	18.49	10.38	<+/-15%	Pass	
103952	34.50	37.26	-7.40	<+/-15%	Pass	103360	21.06	18.49	13.90	<+/-15%	Pass	
104007	34.95	37.26	-6.19	<+/-15%	Pass	100021	18.06	18.49	-2.33	<+/-15%	Pass	
103961	35.30	37.26	-5.26	<+/-15%	Pass	102504	20.03	18.49	8.33	<+/-15%	Pass	
103962	35.10	37.26	-5.79	<+/-15%	Pass	102466	19.51	18.49	5.52	<+/-15%	Pass	
103931	35.54	37.26	-4.61	<+/-15%	Pass	100208	17.93	18.49	-3.03	<+/-15%	Pass	
104011	35.22	37.26	-5.47	<+/-15%	Pass	101155	18.66	18.49	0.92	<+/-15%	Pass	
103950	35.48	37.26	-4.77	<+/-15%	Pass	101145	17.93	18.49	-3.03	<+/-15%	Pass	
103949	35.37	37.26	-5.07	<+/-15%	Pass	101272	18.00	18.49	-2.65	<+/-15%	Pass	
103951	35.75	37.26	-4.05	<+/-15%	Pass	100515	17.87	18.49	-3.35	<+/-15%	Pass	
Average Bias (B)			-5.66				Average Bias (B)			2.47		
Standard Deviation (S)			1.24				Standard Deviation (S)			6.52		
Measure Performance  B +S			6.90	<15%	Pass	Measure Performance  B +S			8.99	<15%	Pass	
3rd Quarter 2018						4th Quarter 2018						
TLD Number	Reported (mR)	Delivered (mR)	Bias (% diff)	Pass/Fail Criteria	Pass/Fail	TLD Number	Reported (mR)	Delivered (mR)	Bias (% diff)	Pass/Fail Criteria	Pass/Fail	
102886	44.09	40.0	10.23	<+/-15%	Pass	102089	46.94	45.0	4.31	<+/-15%	Pass	
102730	44.27	40.0	10.68	<+/-15%	Pass	102442	45.03	45.0	0.07	<+/-15%	Pass	
102248	41.02	40.0	2.55	<+/-15%	Pass	102336	47.40	45.0	5.33	<+/-15%	Pass	
102867	42.58	40.0	6.45	<+/-15%	Pass	103721	48.89	45.0	8.64	<+/-15%	Pass	
102464	40.91	40.0	2.27	<+/-15%	Pass	102738	48.54	45.0	7.87	<+/-15%	Pass	
102752	43.09	40.0	7.73	<+/-15%	Pass	103194	47.94	45.0	6.53	<+/-15%	Pass	
102803	43.80	40.0	9.50	<+/-15%	Pass	102931	47.59	45.0	5.76	<+/-15%	Pass	
103531	43.17	40.0	7.93	<+/-15%	Pass	103742	49.22	45.0	9.38	<+/-15%	Pass	
102880	44.04	40.0	10.10	<+/-15%	Pass	102029	47.14	45.0	4.76	<+/-15%	Pass	
102415	42.26	40.0	5.65	<+/-15%	Pass	102290	46.10	45.0	2.44	<+/-15%	Pass	
Average Bias (B)			7.31				Average Bias (B)			5.51		
Standard Deviation (S)			3.06				Standard Deviation (S)			2.84		
Measure Performance  B +S			10.37	<15%	Pass	Measure Performance  B +S			8.35	<15%	Pass	



# TABLE 4.0-C

## 2018 GEL Laboratories, LLC QA Results

Interlaboratory cross check samples from Eckert & Ziegler Analytics (EZA) and Proficiency Tests from the Department of Energy Mixed Analyte Performance Evaluation Program (MAPEP) were received and analyzed by GEL in all four quarters of 2018 from EZA and in two quarters from MAPEP. Table 4.0-C lists the performance for specific samples. Table 4.0-C may not be applicable to all plants/stations.

Sample	Sample ID	Nuclide	Quarter	Units	GEL Value	Known Value	Acceptance Range/Ratio	Evaluation
Hard To Detect in Soil	MAPEP -18-MaS38	Fe-55	2	Bq/kg	67	N/A	False Pos Test	Agreement
		Ni-63	2	Bq/kg	1.05	N/A	False Pos Test	Agreement
		Sr-90	2	Bq/kg	-108	N/A	False Pos Test	Agreement
	MAPEP -18-MaS39	Fe-55	4	Bq/kg	434	512	358 - 666	Agreement
		Ni-63	4	Bq/kg	793	765	536 - 995	Agreement
		Sr-90	4	Bq/kg	162	193	135 - 251	Agreement
I-131 in Milk with EZA	E12173	I-131	1	pCi/L	105	108	0.97	Agreement
	E12173	I-131	2	pCi/L	78.9	71.9	1.10	Agreement
	E12242	I-131	3	pCi/L	71.8	58.2	1.23	Agreement
	E12348	I-131	4	pCi/L	95.8	93.3	1.03	Agreement
Gross Beta in Water	E12304 <sup>(1)</sup>	Cs-137	4	pCi/L	241	295	0.82	Agreement

<sup>(1)</sup> One set of December 2018 Gross Beta in water analyses were analyzed at GEL.

**APPENDIX A**

**ENVIRONMENTAL SAMPLING**

**&**

**ANALYSIS PROCEDURES**

**2018**

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# APPENDIX A

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## ENVIRONMENTAL SAMPLING AND ANALYSIS PROCEDURES

Adherence to established procedures for sampling and analysis of environmental media at Harris Nuclear Plant was required to ensure compliance with the Harris Nuclear Plant Offsite Dose Calculation Manual. Analytical procedures were employed to ensure that the ODCM detection capabilities were achieved.

Environmental sampling was performed by EnRad Laboratories and Environmental Services. Environmental analysis was performed by EnRad Laboratories, Dosimetry and Records, and General Engineering Laboratories, LLC (GEL).

This appendix describes the environmental sampling frequencies and analysis procedures by media type.

### I. CHANGE OF SAMPLING PROCEDURES

Food product sample collection Procedure 750, Food Products Sampling at Harris Nuclear Plant, was changed to one mixed food product collection per site instead of three separate types of food product sample collections per site. This change was due to a lack of sufficient sample volume of each food product type. The food product sample collection change meets the HNP ODCM food products sampling requirements and is documented in AR # 02227572.

TLD #11 (SHNPP Site, S Sector, 0.6 mi. from site) was moved from the wet land area to GW-82 (SHNPP Site, S Sector, 0.6 mi. from site) due to safety concerns identified during the Nuclear General Office (NGO) Environmental thermoluminescent dosimeter (TLD) Documentation Project (AR # 02202715). Because neither the mileage nor sector changed during the TLD move, an ODCM update was not required.

Water sampling collection Procedure 748, Water Sampling at Harris Nuclear Plant, was changed to eliminate sample collection for gross beta analysis. Self-Assessment AR # 02240431 determined that the gross beta analysis was not required and the gross beta analysis was discontinued.

### II. DESCRIPTION OF ANALYSIS PROCEDURES

Gamma spectroscopy analyses are performed using high purity germanium gamma detectors and Canberra analytical software. Designated sample volumes are transferred to appropriate counting geometries and analyzed by gamma spectroscopy. Perishable

samples such as fish, food products, aquatic vegetation, and broadleaf vegetation are ground to achieve a homogeneous mixture. Soils and sediments are dried, sifted to remove foreign objects (rocks, clams, glass, etc.), and then transferred to an appropriate counting geometry.

Low-level iodine analyses are performed by passing a designated sample aliquot through a pre-measured amount of ion exchange resin to remove and concentrate any iodine in the aqueous sample (milk). The resin is then dried, mixed thoroughly, and a net resin weight determined before being transferred to an appropriate counting geometry and analyzed by gamma spectroscopy.

Tritium analyses are performed by using low-level environmental liquid scintillation analysis technique on a Perkin-Elmer 4910TR liquid scintillation system or Perkin-Elmer 3100TR liquid scintillation system. Tritium samples are distilled and batch processed with a laboratory fortified blank, matrix spike, matrix spike duplicate, and blank to verify instrument performance and sample preparation technique are acceptable.

Gross beta analysis is performed by concentrating a designated aliquot of sample precipitate and analyzing by Tennelec XLB Series 5 gas-flow proportional counters. Samples are batch processed with a blank to ensure sample contamination has not occurred.

### **III. CHANGE OF ANALYSIS PROCEDURES**

No analysis procedures were changed during 2018.

### **IV. SAMPLING AND ANALYSIS PROCEDURES**

#### **A.1 AIRBORNE PARTICULATE AND RADIOIODINE**

Airborne particulate and radioiodine samples at each of nine locations were composited continuously by means of continuous air samplers. Air particulates were collected on a particulate filter and radioiodines were collected in a charcoal cartridge positioned behind the filter in the sampler. The samplers are designed to operate at a constant flow rate (in order to compensate for any filter loading) and are set to sample approximately 2 cubic feet per minute. Filters and cartridges were collected weekly. A separate weekly gamma analysis was performed on each charcoal cartridge. A weekly gross beta analysis was performed on each filter and then the filters, by location, were composited to produce quarterly filter samples for gamma analysis. The continuous composite samples were collected from the locations listed below.

Location 1 = 0.1 mi. S on SR 1134 from SR 1011 intersection. N sector,  
2.6 mi. from site.

Location 2 = 1.4 mi. S on SR 1134 from SR 1011 intersection. NNE sector, 1.4 mi. from site.  
Location 4 = 0.7 mi. N on SR 1127 from intersection with US 1. NNE sector, 3.1 mi. from site.  
Location 5 = Pittsboro (Control Station), WNW sector, >12mi. from site.  
Location 26 = Harris Lake Spillway, S sector, 4.7 mi. from site.  
Location 47 = 1.3 mi. N on SR 1912 from intersection of NC 42, SSW sector, 3.4 mi. from site.  
Location 63 = SHNPP site, SW sector, 0.6 mi. from site.  
Location 90 = SHNPP site, SSW sector, 0.5 mi. from site.  
Location 91 = HE&EC, Sewage Treatment Facility, ENE sector, 1.6 mi. from site.

## **A.2 DRINKING WATER**

Bimonthly composite drinking water samples were collected from location 51, with aliquots going to monthly composite samples. A monthly composite drinking water sample was collected from the remaining drinking water locations. Gross beta, tritium, and gamma analyses were performed on the monthly composites. The composites are collected from the locations listed below.

Location 46 = NE Harnett Metro Water Treatment Plant Intake Building SSE sector, 17.2 mi. from site.  
Location 51 = SHNPP Water Treatment Building (on Site)  
Location 58 = Sanford Water Treatment Plant (Control Station), SW sector, 8.5 mi. from site.

## **A.3 SURFACE WATER**

Bimonthly composite surface water samples were collected from location 26, with aliquots going to monthly composite samples. A monthly composite surface water sample was collected from the remaining surface water locations. Tritium and gamma analyses were performed on the monthly composites. The composites are collected from the locations listed below.

Location 26 = Harris Lake Spillway, S sector, 4.7 mi. from site.  
Location 40 = NE Harnett Metro Water Treatment Plant Intake Building SSE sector, 17.2 mi. from site.  
Location 43 = Sanford Water Treatment Plant (Control Station), SW sector, 8.5 mi. from site.

#### **A.4 GROUND WATER**

Grab samples were collected quarterly from ground water wells at eighteen locations. A gamma analysis and tritium analysis were performed on each sample. The samples were collected from the locations listed below.

- Location 57 = SHNPP Site (LP-13), N. side of Aux Res Intake canal, SSW sector, 0.4 mi. from site
- Location 59 = SHNPP Site (W-13), N. Side of Old Construction Road, NNE sector, 0.5 mi. from site.
- Location 60 = SHNPP Site (W-9A), W. bank of Harris Lake SE of Cooling Tower, ESE sector, 0.5 mi. from site.
- Location 68 = SHNPP Site (LP-6), N. of Old Steam Generator Building, W sector, 0.2 mi. from site.
- Location 69 = SHNPP Site (LP-7), S. side of Warehouse 9, NNE sector, 0.2 mi. from site.
- Location 70 = SHNPP Site (LP-9), N. side of Plant Entrance Road, E sector, 0.4 mi. from site.
- Location 71 = SHNPP Site (LP-16), S. of Switch Yard, SE sector, 0.3 mi from site.
- Location 72 = SHNPP Site (MWA-12), N. of Cooling Tower Makeup Water Intake Structures, SE sector, 0.2 mi. from site.
- Location 73 = SHNPP Site, N. of Emergency Service Water Screening Structure, S sector, 0.2 mi. from site.
- Location 74 = SHNPP Site, N. of helicopter landing pad, SSE sector, 0.2 mi. from site.
- Location 75 = SHNPP Site, W. of Security Building Entrance, ESE sector, 0.1 mi. from site.
- Location 77 = SHNPP Site (BD-MW1), Along the Cooling Tower Blowdown Line, S Sector, 0.4 mi. from site.
- Location 78 = SHNPP Site (BD-MW2), Along the Cooling Tower Blowdown Line, S Sector, 0.5 mi. from site.
- Location 79 = SHNPP Site (BD-MW3), Along the Cooling Tower Blowdown Line, S Sector, 0.5 mi. from site.
- Location 80 = SHNPP Site (BD-MW5), Along the Cooling Tower Blowdown Line, S Sector, 0.6 mi. from site.
- Location 81 = SHNPP Site (BD-MW7), Along the Cooling Tower Blowdown Line, S Sector, 0.6 mi. from site.
- Location 82 = SHNPP Site (BD-MW8), Along the Cooling Tower Blowdown Line, S Sector, 0.6 mi. from site.
- Location 83 = SHNPP Site (BD-MW16), Along the Cooling Tower Blowdown Line, SSW Sector, 1.6 mi. from site.

## **A.5 MILK**

Monthly grab samples were collected at the control location January through May and November and December of 2018. Biweekly grab samples were collected from the control location and the indicator location mid-May through October of 2018. A gamma and low-level Iodine-131 analysis were performed on each sample. The grab samples were collected from the locations listed below.

Location 5 = Manco's Dairy, Pittsboro, (Control Station), WNW sector,  
>12mi. from site.

Location 102 = Goat Farm, W sector, 2.82 mi. from site.

## **A.6 BROADLEAF VEGETATION**

Monthly samples were collected when available during the growing season of May through October. A gamma analysis was performed on each sample. The samples were collected from the locations listed below.

Location 5 = Pittsboro (Control Station), NNW sector, >12 mi. from site.

Location 12 = SHNPP Site, SSW sector, 0.9 mi. from site.

Location 63 = SHNPP Site, SW sector, 0.6 mi. from site.

## **A.7 FOOD PRODUCTS**

Monthly samples were collected when available during the growing season at one location. A gamma analysis was performed on each sample. The samples were collected from the location listed below.

Location 97 = Granite Springs Farm (Control Station), NW sector, 19.1  
mi. from site.

## **A.8 AQUATIC VEGETATION**

Annual samples were collected at each of the three locations. A gamma analysis was performed on each sample. The samples were collected from the locations listed below.

Location 26 = Harris Lake Spillway, S sector, 4.7 mi. from site.

Location 41 = Shoreline of Mixing Zone of Cooling Tower Blowdown  
Line, S sector, 3.8 mi. from site.

Location 61 = Harris Lake East of New Hill – Holleman Rd (Control  
Location), E sector, 2.5 mi. from site.

## **A.9 FISH**

Semiannual samples of bottom feeders (catfish) and free swimmers (sunfish and largemouth bass) were collected at each of two locations. A gamma analysis was performed on the edible portions of each sample. The samples were collected from the locations listed below.

Location 44 = Site varies within the Harris Lake

Location 45 = Site varies above Buckhorn Dam on Cape Fear River  
(Control Station)

## **A.10 SHORELINE SEDIMENT**

Semiannual samples were collected at each of two locations. A gamma analysis was performed on each sample following the drying and removal of rocks and clams. The samples were collected from the locations listed below.

Location 26 = 4.6 miles S

Location 41 = 3.8 miles S

## **A.11 BOTTOM SEDIMENT**

Semiannual samples were collected from the one location. A gamma analysis was performed on each sample following the drying and removal of rocks and clams. The samples were collected from the location listed below.

Location 52 = Harris Lake in the Vicinity of the Mixing Zone of the Cooling Tower, S sector, 3.8 mi. from site.

## **A.12 DIRECT GAMMA RADIATION (TLD)**

Thermoluminescent dosimeters (TLD) were collected quarterly at forty-one locations. A gamma exposure rate was determined for each TLD. TLD locations are listed in Table 2.1-B. The TLDs were placed as indicated below.

- \* An inner ring of 18 TLDs, one in each meteorological sector in the general area of the site boundary.
- \* An outer ring of 16 TLDs, one in each meteorological sector in the 6 to 8 kilometer range.
- \* The remaining TLDs were placed in special interest areas such as population centers, residential areas, schools, and at a control location.



### **A.13 ANNUAL LAND USE CENSUS**

An Annual Land Use Census was conducted to identify within a distance of 8 kilometers (5.0 miles) from the plant, the nearest location from the site boundary in each of the sixteen meteorological sectors, the following:

- \* The Nearest Residence
- \* The Nearest Garden greater than 50 square meters or 500 square feet
- \* The Nearest Milk-giving Animal (cow, goat, etc.)
- \* The Nearest Meat Animal (beef, hogs, etc.) was only identified at the nearest garden or closer in each sector, and poultry and egg laying animals were not classified as meat animals for the 2018 census.

The census was conducted during the growing season from July 24 - 25, 2018. Results are shown in Table 3.12.3-1. No changes were made to the sampling procedures during 2018 as a result of the 2018 census.

## **V. GLOBAL POSITIONING SYSTEM (GPS) ANALYSIS**

The Shearon Harris Nuclear Plant centerline used for GPS measurements was referenced from the Shearon Harris Nuclear Plant Updated Final Safety Analysis Report (UFSAR), section 2.1.1.1, Specification of Location. Waypoint coordinates used for HNP GPS measurements were latitude 35°-38'-00"N and longitude 78°-57'-22"W. Maps and tables were generated using North American Datum (NAD) 27. Data normally reflect accuracy to within 2 to 5 meters from point of measurement. All GPS field measurements were taken as close as possible to the item of interest. Distances for the locations are displayed using three significant figures.

**APPENDIX B**

**RADIOLOGICAL  
ENVIRONMENTAL MONITORING  
PROGRAM**

**SUMMARY OF RESULTS**

**2018**

**HARRIS NUCLEAR PLANT  
RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM DATA SUMMARY**

Shearon Harris Nuclear Power Plant  
Wake County, North Carolina

Docket Numbers: STN 50-400  
Calendar Year: 2018

Medium or Pathway Sampled or Measured (Unit of Measurement)	Type and Total No. of Measurements Performed	Lower Limit of Detection (LLD) <sup>(1)</sup>	All Indicator Locations Mean <sup>(2)(3)</sup> Range <sup>(2)</sup>	Location w/Highest Annual Mean <sup>(2)</sup>		Control Locations Mean <sup>(2)(3)</sup> Range <sup>(2)</sup>	No. of Non-Routine Report Meas.
				Name, Distance, and Direction	Mean <sup>(2)(3)</sup> Range <sup>(2)</sup>		
Air Particulate (pCi/m <sup>3</sup> )	Gross Beta 468 <sup>(4)</sup>	See Table 2.2-C	1.90E-02 (416/416) 6.27E-03 – 3.12E-02	Loc. # 1 2.6 miles N	1.96E-02 (52/52) 8.50E-03 – 2.91E-02	Loc. # 5 1.89E-02 (52/52) 4.90E-03 – 2.98E-02	0
	Gamma 36	See Table 2.2-C	All less than LLD	----	----	All less than LLD	0
Air Radioiodine (pCi/m <sup>3</sup> )	I-131 468 <sup>(4)</sup>	See Table 2.2-C	All less than LLD	----	----	All less than LLD	0
Drinking Water <sup>(4)(8)</sup> (pCi/l)	Gross Beta 39	4	3.45E+00 (26/26) 2.34E+00 – 5.15E+00	Loc. # 46 NE Harnett Metro Water Treatment Plant - Lillington 17.2 miles SSE	3.48E+00 (13/13) 2.34E+00 – 5.15E+00	Loc. # 58 3.68E+00 (13/13) 1.65E+00 – 6.57E+00	0
	Gamma 39	See Table 2.2-C	All less than LLD	----	----	All less than LLD	0
	Tritium <sup>(5)</sup> 39	2000 <sup>(7)</sup>	3.27E+03 (13/26) 2.40E+03 – 6.18E+03	Loc. # 51 Water Treatment Building on Site	3.27E+03 (13/13) 2.4E+03 – 6.18E+03	All less than LLD	0
Surface Water <sup>(4)</sup> (pCi/l)	Gross Beta 12 <sup>(9)</sup>	4	4.77E+00 (8/8) 3.09E+00 – 6.67E+00	Loc. # 26 Harris Lake Spillway 4.7 miles S	5.12E+0 (4/4) 3.96E+00 – 6.67E+00	Loc. # 43 4.72E+00 (4/4) 3.70E+00 – 5.93E+00	0
	Gamma 39	See Table 2.2-C	All less than LLD	----	----	All less than LLD	0
	Tritium 39	2000 <sup>(7)</sup>	7.46E+03 (13/26) 3.62E+03 – 1.28E+04	Loc. # 26 Harris Lake Spillway 4.7 miles S	7.46E+3 (13/13) 3.62E+03 – 1.28E+04	All less than LLD	0

**HARRIS NUCLEAR PLANT  
RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM DATA SUMMARY (cont.)**

Shearon Harris Nuclear Power Plant  
Wake County, North Carolina

Docket Numbers: STN 50-400  
Calendar Year: 2018

Medium or Pathway Sampled or Measured (Unit of Measurement)	Type and Total No. of Measurements Performed	Lower Limit of Detection (LLD) <sup>(1)</sup>	All Indicator Locations Mean <sup>(2)(3)</sup> Range <sup>(2)</sup>	Location w/Highest Annual Mean <sup>(2)</sup>		Control Locations Mean <sup>(2)(3)</sup> Range <sup>(2)</sup>	No. of Non-Routine Report Meas.
				Name, Distance, and Direction	Mean <sup>(2)(3)</sup> Range <sup>(2)</sup>		
Ground Water (pCi/l)	Gamma 72	See Table 2.2-C	All less than LLD	----	----	No Control	0
	Tritium 72	2000 <sup>(7)</sup>	4.84E+02 (21/72) 1.74E+02 – 1.16E+03	Loc. # 83 On Site (BD-MW16) along Cooling Tower Blowdown line 1.6 miles SSW	1.10E+03 (4/4) 1.05E+03 – 1.16E+03	No Control	0
Milk (pCi/l)	I-131 31	See Table 2.2-C	All less than LLD	----	----	All less than LLD	0
	Gamma 31 Cs-137 <sup>(10)</sup>	See Table 2.2-C	5.89E+00 (1/12) 5.89E+00 – 5.89E+00	102 Goat Farm 2.82 miles W	5.89E+00 (1/12) 5.89E+00 – 5.89E+00	All less than LLD	0
Broadleaf Vegetation (pCi/kg, wet)	Gamma 18 <sup>(4)</sup>	See Table 2.2-C	All less than LLD	----	----	All less than LLD	0
Food Products (pCi/kg, wet)	Gamma 28 <sup>(4)(11)</sup>	See Table 2.2-C	All less than LLD	----	----	All less than LLD	0
Aquatic Vegetation (pCi/kg, wet)	Gamma 3 Cs-137 <sup>(12)</sup>	See Table 2.2-C	8.31E+00 (1/2) 8.31E+00 – 8.31E+00	Loc. # 41 Shoreline of Mixing Zone of Cooling Tower Blowdown 3.8 miles S	8.31E+00 (1/1) 8.31E+00 – 8.31E+00	All less than LLD	0
Fish (pCi/kg, wet)	Gamma 12	See Table 2.2-C	All less than LLD	----	----	All less than LLD	0

**HARRIS NUCLEAR PLANT  
RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM DATA SUMMARY (cont.)**

Shearon Harris Nuclear Plant  
Wake County, North Carolina

Docket Numbers: STN 50-400  
Calendar Year: 2018

Medium or Pathway Sampled or Measured (Unit of Measurement)	Type and Total No. of Measurements Performed	Lower Limit of Detection (LLD) <sup>(1)</sup>	All Indicator Locations Mean <sup>(2)(3)</sup> Range <sup>(2)</sup>	Location w/Highest Annual Mean <sup>(2)</sup>		Control Locations Mean <sup>(2)(3)</sup> Range <sup>(2)</sup>	No. of Non-Routine Report Meas.
				Name, Distance, and Direction	Mean <sup>(2)(3)</sup> Range <sup>(2)</sup>		
Sediments -- Shoreline (pCi/kg, dry)	Gamma 4	See Table 2.2-C	All less than LLD	----	----	No Control	0
Sediments -- Bottom (pCi/kg, dry)	Gamma 2 Co-60	See Table 2.2-C	1.77E+02 (2/2) 1.64E+02 – 1.90E+02	Loc. # 52 Harris Lake Cooling Tower Mixing Zone 3.8 miles S	1.77E+02 (2/2) 1.64E+02 – 1.90E+02	No Control	0
	Cs-137	See Table 2.2-C	1.25E+02 (2/2) 8.28E+01 – 1.67E+02	Loc. # 52 Harris Lake Cooling Tower Mixing Zone 3.8 miles S	1.25E+02 (2/2) 8.28E+01 – 1.67E+02	No Control	0
Direct Radiation (TLD) (mR per quarter) <sup>(6)</sup>	TLD Readout 161 <sup>(4)</sup>	----	1.44E+01 (157/157) 9.94E+00 – 2.21E+01	Loc. # 94 Old US Hwy 1 2.0 miles NW	1.75E+01 (4/4) 1.58E+01 – 1.88E+01	Loc. # 5 1.61E+01 (4/4) 1.45E+01 – 1.77E+01	0

## Footnotes to Appendix B

1. The Lower Limit of Detection (LLD) is the smallest concentration of radioactive material in a sample that will yield a net count above system background, which will be detected with 95 percent probability and with only 5 percent probability of falsely concluding that a blank observation represents a "real" signal. Due to counting statistics and varying volumes, occasionally lower LLDs are achieved. Refer to Section 2.3.2 for an explanation of how LLD values were derived.
2. Mean and range are based on detectable measurements only.
3. The fractions of all samples with detectable activities at specific locations are indicated in parentheses.
4. Missing samples or surveillances are discussed in Appendix C or Appendix D.
5. Although quarterly composite samples are required, monthly composite samples are used to provide more frequent and sensitive analyses.
6. TLD exposure is reported in milliroentgen (mR) per standard quarter (91 days).
7. Tritium Lower Limit of Detection (LLD) is approximately 2.00E+2 pCi/L for samples that typically demonstrate activity less than the LLD.
8. Drinking Water 51 (DW-51) has been included, as of 2009, in the Data Summary even though it does not meet the EPA (Environmental Protection Agency) definition of a public drinking water supply.
9. Gross Beta samples were only collected and analyzed at Surface Water locations during the 1<sup>st</sup> Quarter of 2018.
10. Cs-137 identified in Goat Milk sample collected 29OCT2018 (NCR # 02243290). Follow-up trend evaluation of Cs-137 in REMP samples at HNP documented in AR # 02243634.
11. Food Product sampling was evaluated (AR # 02227572) and changed to one Mixed Food Product sample rather than three separate Food Product samples. 10SEP2018 was the first Mixed Food Product sample.
12. Cs-137 identified in AQV sample (Lyngbya) collected 10OCT2018 documented in NCR # 02236885. Follow-up trend evaluation of Cs-137 in REMP samples at HNP documented in AR # 02243634.

**APPENDIX C**

**SAMPLING DEVIATIONS**

**&**

**UNAVAILABLE ANALYSES**

**2018**

# APPENDIX C

## HARRIS NUCLEAR PLANT SAMPLING DEVIATIONS & UNAVAILABLE ANALYSES

DEVIATION & UNAVAILABLE REASON CODES			
BF	Blown Fuse	PM	Preventive Maintenance
CN	Construction	PO	Power Outage
FZ	Sample Frozen	PS	Pump out of service / Undergoing repair
IV	Insufficient Volume	SL	Sample Loss/Lost due to Lab Accident
IW	Inclement Weather	SM	Motor / Rotor Seized
LC	Line Clog to Sampler	SU	Seasonally Unavailable
OT	Other	TF	Torn Filter
PI	Power Interrupt	VN	Vandalism

### C.1 SAMPLING DEVIATIONS

#### Air Particulate and Air Radioiodine

REMP weekly air samples (Air Particulate (AP) or Air Radioiodine (AR)) that experience any downtime during a surveillance period are reported as a Deviation and classified as a “Sampling Deviation.” However, the sample is counted and the data reported, whereas a Deviation with no available sample is classified as an “Unavailable Analyses” and does not have any data reported. The Harris REMP air samplers operated for a total of 99.5% availability in 2018.

Location	Scheduled Collection Dates	Code	Description & Action to Prevent Recurrence	Corrective Action
2	1/15 – 1/22/2018	PI	81.36 hours of downtime due to blown fuse and seized pump.	NCR # 02179183
5	1/15 – 1/22/2018	IW	1.16 hours of downtime due to power interruption from snow storm.	NCR # 02179186
47	1/15 – 1/22/2018	IW	23.63 hours of downtime due to power interruption from snow storm.	NCR # 02179187
47	1/22 – 1/29/2018	PI	2.23 hours of downtime due to unknown power interruption.	NCR # 02180764
26	1/22 – 1/29/2018	PI	2.22 hours of downtime due to unknown power interruption.	NCR # 02180766
1	2/26 – 3/5/2018	PI	3.71 hours of downtime due to power interruption from high winds.	NCR # 02189513
26	2/26 – 3/5/2018	PI	5.40 hours of downtime due to power interruption from high winds.	NCR # 02189514
47	2/26 – 3/5/2018	PI	7.97 hours of downtime due to power interruption from high winds.	NCR # 02189515
5	6/18 – 6/25/2018	PI	5.32 hours of downtime due to power interruption from thunderstorms.	NCR # 02215536
26	7/16 – 7/23/2018	PI	36.91 hours of downtime due to power interruption and tripped GFCI.	NCR # 02220888
5	7/23 – 7/30/2018	PI	1.62 hours of downtime due to power interruption from thunderstorms.	NCR # 02222112
26	7/23 – 7/30/2018	PI	4.68 hours of downtime due to power interruption from thunderstorms.	NCR # 02222115
1	9/10 – 9/17/2018	IW	2.41 hours of downtime due to power interruption from Hurricane Florence.	NCR # 02231527



4	9/10 – 9/17/2018	IW	2.29 hours of downtime due to power interruption from Hurricane Florence.	NCR # 02231530
5	9/10 – 9/17/2018	IW	7.40 hours of downtime due to power interruption from Hurricane Florence and tripped GFCI.	NCR # 02231538
26	9/10 – 9/17/2018	IW	39.05 hours of downtime due to power interruption from Hurricane Florence.	NCR # 02231540
1	10/8 – 10/15/2018	IW	29.53 hours of downtime due to power interruption from Hurricane Michael.	NCR # 02237487
4	10/8 – 10/15/2018	IW	20.82 hours of downtime due to power interruption from Hurricane Michael.	NCR # 02237497
5	10/8 – 10/15/2018	IW	0.25 hours of downtime due to power interruption from Hurricane Michael.	NCR # 02237499
26	10/8 – 10/15/2018	IW	87.67 hours of downtime due to power interruption from Hurricane Michael and tripped GFCI.	NCR # 02237492

### Drinking Water and Surface Water

REMP monthly drinking water samples (Drinking Water (DW)) or surface water samples (Surface Water (SW)) that experience any downtime during a surveillance period are reported as a Deviation and classified as a “Sampling Deviation.” The sample is counted and the data reported, whereas a Deviation with no available sample is classified as an “Unavailable Analyses” and does not have any data reported. The Harris REMP water samplers operated for a total of 99.3% availability in 2018.

Location	Scheduled Collection Dates	Code	Description & Action to Prevent Recurrence	Corrective Action
26	12/26/17 – 1/22/2018	FZ	103.7 hours of total downtime for monthly composite due to freezing of water sampler and sampler tubing. Grab Sample taken (NCR# 02176875 documents 12/26/18 – 1/8/19 collection with 96 hours of downtime).	NCR # 02179451
26	2/19 – 3/19/2018	OT	4.0 hours of downtime due to sampling program not stopping when programmed volume was input (see NCR # 02186244 for equipment malfunction details) during HNP requested maintenance.	NCR # 02193001
26	6/11 – 7/9/2018	PS	287.52 hours of downtime due to pump rotor jamming.	NCR # 02217791

## C.2 UNAVAILABLE ANALYSES

### TLDs

Location	Scheduled Collection Dates	Code	Description & Action to Prevent Recurrence	Corrective Action
3	1/10 – 4/11/2018	OT	TLD was found on the ground, not in its designated location - TLD not valid.	NCR # 02197915
33	7/11 – 10/10/2018	VN	TLD was found on the ground, appeared to be by human intervention, not in its designated location - TLD not valid.	NCR # 02236558
56	7/11 – 10/10/2018	CN	TLD was found on the ground, not in its designated location due to construction (tree removal) in the area - TLD not valid.	NCR # 02236559

**APPENDIX D**

**ANALYTICAL DEVIATIONS**

**2018**

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# **APPENDIX D**

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## **HARRIS NUCLEAR PLANT**

## **ANALYTICAL DEVIATIONS**

No Analytical deviations were incurred for the 2018 HNP Radiological Environmental Monitoring Program.

**APPENDIX E**

**RADIOLOGICAL  
ENVIRONMENTAL MONITORING  
PROGRAM RESULTS**

**2018**

This appendix includes sample analysis report summaries and supportive data generated from each sample medium for 2018.

# HARRIS Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: AIR PARTICULATE Concentration (Activity): pCi/m3

Sample Point 1 [ INDICATOR - N @ 2.6 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
465964	1/2/2018 - 1/8/2018	Beta	2.58E-02	3.60E-03	3.65E-03
466164	1/8/2018 - 1/15/2018	Beta	1.87E-02	2.93E-03	3.08E-03
466362	1/15/2018 - 1/22/2018	Beta	2.86E-02	3.26E-03	2.78E-03
466950	1/22/2018 - 1/29/2018	Beta	1.60E-02	2.66E-03	3.08E-03
467309	1/29/2018 - 2/5/2018	Beta	1.44E-02	2.67E-03	3.05E-03
467618	2/5/2018 - 2/12/2018	Beta	1.90E-02	2.93E-03	3.06E-03
468410	2/12/2018 - 2/19/2018	Beta	1.89E-02	3.00E-03	3.37E-03
468731	2/19/2018 - 2/26/2018	Beta	1.18E-02	2.77E-03	3.57E-03
469543	2/26/2018 - 3/5/2018	Beta	1.83E-02	3.04E-03	3.42E-03
470565	3/5/2018 - 3/12/2018	Beta	2.28E-02	3.15E-03	3.16E-03
471132	3/12/2018 - 3/19/2018	Beta	2.36E-02	3.11E-03	3.00E-03
471687	3/19/2018 - 3/26/2018	Beta	1.53E-02	2.42E-03	2.52E-03
472465	3/26/2018 - 4/2/2018	Beta	1.37E-02	2.70E-03	3.22E-03
472474	1/2/2018 - 4/2/2018	Cs-134	<1.44E-03	0.00E+00	1.44E-03
		Cs-137	<1.64E-03	0.00E+00	1.64E-03
		Be-7	1.77E-01	4.22E-02	3.83E-02
		K-40	<2.15E-02	0.00E+00	2.15E-02
472949	4/2/2018 - 4/9/2018	Beta	1.92E-02	2.81E-03	3.12E-03
473240	4/9/2018 - 4/16/2018	Beta	1.94E-02	2.72E-03	2.88E-03
473605	4/16/2018 - 4/23/2018	Beta	2.06E-02	2.83E-03	2.95E-03
474125	4/23/2018 - 4/30/2018	Beta	1.51E-02	2.86E-03	3.44E-03
474503	4/30/2018 - 5/7/2018	Beta	1.93E-02	3.20E-03	3.65E-03
474862	5/7/2018 - 5/14/2018	Beta	2.88E-02	3.43E-03	3.20E-03
475186	5/14/2018 - 5/21/2018	Beta	1.05E-02	2.51E-03	3.16E-03
475511	5/21/2018 - 5/29/2018	Beta	1.30E-02	2.58E-03	3.21E-03
476336	5/29/2018 - 6/4/2018	Beta	1.89E-02	2.78E-03	2.73E-03



# HARRIS Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: AIR PARTICULATE Concentration (Activity): pCi/m3

Sample Point 1 [ INDICATOR - N @ 2.6 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
477348	6/4/2018 - 6/11/2018	Beta	2.83E-02	3.47E-03	3.45E-03
478078	6/11/2018 - 6/18/2018	Beta	2.11E-02	3.12E-03	3.17E-03
478398	6/18/2018 - 6/25/2018	Beta	1.81E-02	3.03E-03	3.44E-03
478749	6/25/2018 - 7/2/2018	Beta	1.68E-02	2.85E-03	3.17E-03
478758	4/2/2018 - 7/2/2018	Cs-134	<1.23E-03	0.00E+00	1.23E-03
		Cs-137	<7.97E-04	0.00E+00	7.97E-04
		Be-7	1.81E-01	3.80E-02	2.24E-02
		K-40	<2.44E-02	0.00E+00	2.44E-02
479030	7/2/2018 - 7/9/2018	Beta	1.41E-02	2.80E-03	3.42E-03
479851	7/9/2018 - 7/16/2018	Beta	2.88E-02	3.54E-03	3.46E-03
480221	7/16/2018 - 7/23/2018	Beta	2.01E-02	3.02E-03	3.19E-03
481048	7/23/2018 - 7/30/2018	Beta	1.86E-02	2.69E-03	2.84E-03
481492	7/30/2018 - 8/6/2018	Beta	1.08E-02	2.19E-03	2.65E-03
481925	8/6/2018 - 8/13/2018	Beta	2.23E-02	3.21E-03	3.32E-03
482457	8/13/2018 - 8/20/2018	Beta	2.20E-02	2.75E-03	2.63E-03
482782	8/20/2018 - 8/27/2018	Beta	2.14E-02	2.79E-03	2.79E-03
483407	8/27/2018 - 9/4/2018	Beta	1.87E-02	2.69E-03	2.81E-03
483982	9/4/2018 - 9/10/2018	Beta	2.11E-02	3.58E-03	4.01E-03
484152	9/10/2018 - 9/17/2018	Beta	8.50E-03	2.27E-03	2.90E-03
485003	9/17/2018 - 9/24/2018	Beta	2.41E-02	3.23E-03	3.07E-03
485233	9/24/2018 - 10/1/2018	Beta	1.61E-02	2.78E-03	3.16E-03
485457	7/2/2018 - 10/1/2018	Cs-134	<1.60E-03	0.00E+00	1.60E-03
		Cs-137	<1.42E-03	0.00E+00	1.42E-03
		Be-7	1.76E-01	3.75E-02	2.25E-02
		K-40	<2.89E-02	0.00E+00	2.89E-02
486124	10/1/2018 - 10/8/2018	Beta	2.91E-02	3.47E-03	3.13E-03
486673	10/8/2018 - 10/15/2018	Beta	1.75E-02	3.22E-03	3.66E-03
487712	10/15/2018 - 10/22/2018	Beta	2.53E-02	3.27E-03	3.05E-03



# HARRIS Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: AIR PARTICULATE Concentration (Activity): pCi/m3

Sample Point 1 [ INDICATOR - N @ 2.6 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
487959	10/22/2018 - 10/29/2018	Beta	1.75E-02	2.49E-03	2.54E-03
488444	10/29/2018 - 11/5/2018	Beta	2.01E-02	2.73E-03	2.71E-03
488820	11/5/2018 - 11/12/2018	Beta	1.98E-02	2.95E-03	3.06E-03
489124	11/12/2018 - 11/19/2018	Beta	1.79E-02	2.69E-03	2.97E-03
489709	11/19/2018 - 11/26/2018	Beta	2.65E-02	3.23E-03	2.97E-03
490125	11/26/2018 - 12/3/2018	Beta	1.73E-02	2.74E-03	3.13E-03
490771	12/3/2018 - 12/11/2018	Beta	2.15E-02	2.75E-03	2.53E-03
491151	12/11/2018 - 12/18/2018	Beta	2.01E-02	3.02E-03	3.13E-03
491455	12/18/2018 - 12/26/2018	Beta	1.98E-02	2.44E-03	2.40E-03
491711	12/26/2018 - 12/31/2018	Beta	2.55E-02	3.89E-03	4.28E-03
491720	10/1/2018 - 12/31/2018	Cs-134	<3.67E-04	0.00E+00	3.67E-04
		Cs-137	<1.56E-03	0.00E+00	1.56E-03
		Be-7	1.42E-01	2.18E-02	2.30E-02
		K-40	<2.94E-02	0.00E+00	2.94E-02

Sample Point 2 [ INDICATOR - NNE @ 1.4 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
465965	1/2/2018 - 1/8/2018	Beta	3.08E-02	3.84E-03	3.65E-03
466165	1/8/2018 - 1/15/2018	Beta	1.69E-02	2.84E-03	3.08E-03
466363	1/15/2018 - 1/19/2018	Beta	1.88E-02	4.33E-03	5.22E-03
466951	1/22/2018 - 1/29/2018	Beta	1.52E-02	2.63E-03	3.09E-03
467310	1/29/2018 - 2/5/2018	Beta	1.41E-02	2.65E-03	3.05E-03
467619	2/5/2018 - 2/12/2018	Beta	1.76E-02	2.86E-03	3.06E-03
468411	2/12/2018 - 2/19/2018	Beta	1.68E-02	2.89E-03	3.36E-03
468732	2/19/2018 - 2/26/2018	Beta	1.25E-02	2.81E-03	3.58E-03
469544	2/26/2018 - 3/5/2018	Beta	2.15E-02	3.15E-03	3.35E-03
470566	3/5/2018 - 3/12/2018	Beta	1.92E-02	2.97E-03	3.16E-03
471133	3/12/2018 - 3/19/2018	Beta	2.64E-02	3.23E-03	2.99E-03
471688	3/19/2018 - 3/26/2018	Beta	1.48E-02	2.40E-03	2.53E-03





# HARRIS Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: AIR PARTICULATE Concentration (Activity): pCi/m3

Sample Point 2 [ INDICATOR - NNE @ 1.4 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
472466	3/26/2018 - 4/2/2018	Beta	1.38E-02	2.70E-03	3.22E-03
472475	1/2/2018 - 4/2/2018	Nuclide	Activity	2 Sigma Error	MDA
		Cs-134	<1.73E-03	0.00E+00	1.73E-03
		Cs-137	<1.66E-03	0.00E+00	1.66E-03
		Be-7	1.15E-01	3.74E-02	4.21E-02
		K-40	<2.84E-02	0.00E+00	2.84E-02
472950	4/2/2018 - 4/9/2018	Nuclide	Activity	2 Sigma Error	MDA
		Beta	1.86E-02	2.78E-03	3.12E-03
473241	4/9/2018 - 4/16/2018	Nuclide	Activity	2 Sigma Error	MDA
		Beta	2.02E-02	2.74E-03	2.88E-03
473606	4/16/2018 - 4/23/2018	Nuclide	Activity	2 Sigma Error	MDA
		Beta	1.99E-02	2.80E-03	2.96E-03
474126	4/23/2018 - 4/30/2018	Nuclide	Activity	2 Sigma Error	MDA
		Beta	1.32E-02	2.76E-03	3.44E-03
474504	4/30/2018 - 5/7/2018	Nuclide	Activity	2 Sigma Error	MDA
		Beta	2.36E-02	3.40E-03	3.65E-03
474863	5/7/2018 - 5/14/2018	Nuclide	Activity	2 Sigma Error	MDA
		Beta	2.51E-02	3.26E-03	3.19E-03
475187	5/14/2018 - 5/21/2018	Nuclide	Activity	2 Sigma Error	MDA
		Beta	9.99E-03	2.49E-03	3.17E-03
475512	5/21/2018 - 5/29/2018	Nuclide	Activity	2 Sigma Error	MDA
		Beta	1.11E-02	2.48E-03	3.21E-03
476337	5/29/2018 - 6/4/2018	Nuclide	Activity	2 Sigma Error	MDA
		Beta	1.19E-02	2.40E-03	2.73E-03
477349	6/4/2018 - 6/11/2018	Nuclide	Activity	2 Sigma Error	MDA
		Beta	2.53E-02	3.34E-03	3.45E-03
478079	6/11/2018 - 6/18/2018	Nuclide	Activity	2 Sigma Error	MDA
		Beta	2.32E-02	3.23E-03	3.17E-03
478399	6/18/2018 - 6/25/2018	Nuclide	Activity	2 Sigma Error	MDA
		Beta	2.28E-02	3.26E-03	3.44E-03
478750	6/25/2018 - 7/2/2018	Nuclide	Activity	2 Sigma Error	MDA
		Beta	2.02E-02	3.02E-03	3.17E-03
478759	4/2/2018 - 7/2/2018	Nuclide	Activity	2 Sigma Error	MDA
		Cs-134	<2.17E-03	0.00E+00	2.17E-03
		Cs-137	<1.20E-03	0.00E+00	1.20E-03
		Be-7	1.62E-01	3.74E-02	2.80E-02
		K-40	2.04E-02	1.19E-02	4.62E-03
479031	7/2/2018 - 7/9/2018	Nuclide	Activity	2 Sigma Error	MDA
		Beta	1.71E-02	2.96E-03	3.42E-03
479852	7/9/2018 - 7/16/2018	Nuclide	Activity	2 Sigma Error	MDA
		Beta	2.71E-02	3.47E-03	3.46E-03
480222	7/16/2018 - 7/23/2018	Nuclide	Activity	2 Sigma Error	MDA
		Beta	1.83E-02	2.92E-03	3.19E-03
481049	7/23/2018 - 7/30/2018	Nuclide	Activity	2 Sigma Error	MDA
		Beta	1.83E-02	2.67E-03	2.85E-03
481493	7/30/2018 - 8/6/2018	Nuclide	Activity	2 Sigma Error	MDA
		Beta	1.09E-02	2.20E-03	2.65E-03
481926	8/6/2018 - 8/13/2018	Nuclide	Activity	2 Sigma Error	MDA
		Beta	1.74E-02	2.97E-03	3.33E-03



# HARRIS Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: AIR PARTICULATE Concentration (Activity): pCi/m3

Sample Point 2 [ INDICATOR - NNE @ 1.4 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
482458	8/13/2018 - 8/20/2018	Beta	2.29E-02	2.79E-03	2.63E-03
482783	8/20/2018 - 8/27/2018	Beta	1.98E-02	2.72E-03	2.79E-03
483408	8/27/2018 - 9/4/2018	Beta	1.39E-02	2.45E-03	2.81E-03
483983	9/4/2018 - 9/10/2018	Beta	1.93E-02	3.48E-03	4.01E-03
484153	9/10/2018 - 9/17/2018	Beta	6.27E-03	2.09E-03	2.86E-03
485004	9/17/2018 - 9/24/2018	Beta	2.28E-02	3.16E-03	3.07E-03
485234	9/24/2018 - 10/1/2018	Beta	1.86E-02	2.90E-03	3.15E-03
485458	7/2/2018 - 10/1/2018	Cs-134	<1.52E-03	0.00E+00	1.52E-03
		Cs-137	<1.25E-03	0.00E+00	1.25E-03
		Be-7	1.51E-01	3.69E-02	2.92E-02
		K-40	<3.49E-02	0.00E+00	3.49E-02
486125	10/1/2018 - 10/8/2018	Beta	2.97E-02	3.50E-03	3.13E-03
486674	10/8/2018 - 10/15/2018	Beta	1.90E-02	2.90E-03	3.02E-03
487713	10/15/2018 - 10/22/2018	Beta	2.23E-02	3.13E-03	3.05E-03
487960	10/22/2018 - 10/29/2018	Beta	1.74E-02	2.49E-03	2.53E-03
488445	10/29/2018 - 11/5/2018	Beta	1.97E-02	2.71E-03	2.71E-03
488821	11/5/2018 - 11/12/2018	Beta	1.81E-02	2.87E-03	3.06E-03
489125	11/12/2018 - 11/19/2018	Beta	1.62E-02	2.62E-03	2.97E-03
489710	11/19/2018 - 11/26/2018	Beta	2.88E-02	3.33E-03	2.96E-03
490126	11/26/2018 - 12/3/2018	Beta	1.87E-02	2.81E-03	3.13E-03
490772	12/3/2018 - 12/11/2018	Beta	2.07E-02	2.71E-03	2.53E-03
491152	12/11/2018 - 12/18/2018	Beta	1.87E-02	2.95E-03	3.13E-03
491456	12/18/2018 - 12/26/2018	Beta	1.50E-02	2.23E-03	2.40E-03
491712	12/26/2018 - 12/31/2018	Beta	2.47E-02	3.84E-03	4.28E-03
491721	10/1/2018 - 12/31/2018	Cs-134	<1.50E-03	0.00E+00	1.50E-03
		Cs-137	<3.09E-04	0.00E+00	3.09E-04
		Be-7	1.13E-01	3.49E-02	3.81E-02
		K-40	<2.72E-02	0.00E+00	2.72E-02



# HARRIS Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: AIR PARTICULATE Concentration (Activity): pCi/m3

Sample Point 4 [ INDICATOR - NNE @ 3.1 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
465967	1/2/2018 - 1/8/2018	Beta	3.04E-02	3.80E-03	3.65E-03
466167	1/8/2018 - 1/15/2018	Beta	1.50E-02	2.73E-03	3.08E-03
466365	1/15/2018 - 1/22/2018	Beta	2.69E-02	3.20E-03	2.78E-03
466953	1/22/2018 - 1/29/2018	Beta	1.45E-02	2.58E-03	3.07E-03
467312	1/29/2018 - 2/5/2018	Beta	1.54E-02	2.72E-03	3.05E-03
467621	2/5/2018 - 2/12/2018	Beta	1.78E-02	2.87E-03	3.06E-03
468413	2/12/2018 - 2/19/2018	Beta	1.74E-02	2.99E-03	3.47E-03
468734	2/19/2018 - 2/26/2018	Beta	9.45E-03	2.58E-03	3.48E-03
469546	2/26/2018 - 3/5/2018	Beta	2.25E-02	3.18E-03	3.32E-03
470568	3/5/2018 - 3/12/2018	Beta	1.84E-02	2.93E-03	3.16E-03
471135	3/12/2018 - 3/19/2018	Beta	2.19E-02	3.00E-03	2.96E-03
471690	3/19/2018 - 3/26/2018	Beta	1.38E-02	2.37E-03	2.57E-03
472468	3/26/2018 - 4/2/2018	Beta	1.41E-02	2.73E-03	3.24E-03
472477	1/2/2018 - 4/2/2018	Nuclide	Activity	2 Sigma Error	MDA
		Cs-134	<1.63E-03	0.00E+00	1.63E-03
		Cs-137	<1.65E-03	0.00E+00	1.65E-03
		Be-7	1.64E-01	3.97E-02	3.39E-02
		K-40	1.06E-02	1.19E-02	1.84E-02
472952	4/2/2018 - 4/9/2018	Beta	2.15E-02	2.90E-03	3.11E-03
473243	4/9/2018 - 4/16/2018	Beta	2.01E-02	2.73E-03	2.86E-03
473608	4/16/2018 - 4/23/2018	Beta	1.92E-02	2.77E-03	2.97E-03
474128	4/23/2018 - 4/30/2018	Beta	1.18E-02	2.67E-03	3.41E-03
474506	4/30/2018 - 5/7/2018	Beta	2.07E-02	3.27E-03	3.67E-03
474865	5/7/2018 - 5/14/2018	Beta	2.67E-02	3.34E-03	3.20E-03
475189	5/14/2018 - 5/21/2018	Beta	1.05E-02	2.51E-03	3.15E-03
475514	5/21/2018 - 5/29/2018	Beta	1.10E-02	2.47E-03	3.21E-03
476339	5/29/2018 - 6/4/2018	Beta	1.73E-02	2.70E-03	2.73E-03



# HARRIS Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: AIR PARTICULATE Concentration (Activity): pCi/m3

Sample Point 4 [ INDICATOR - NNE @ 3.1 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
477351	6/4/2018 - 6/11/2018	Beta	2.30E-02	3.24E-03	3.45E-03
478081	6/11/2018 - 6/18/2018	Beta	1.97E-02	3.05E-03	3.17E-03
478401	6/18/2018 - 6/25/2018	Beta	2.08E-02	3.17E-03	3.44E-03
478752	6/25/2018 - 7/2/2018	Beta	2.04E-02	3.06E-03	3.20E-03
478761	4/2/2018 - 7/2/2018	Cs-134	<1.60E-03	0.00E+00	1.60E-03
		Cs-137	<1.01E-03	0.00E+00	1.01E-03
		Be-7	1.40E-01	3.63E-02	3.40E-02
		K-40	<2.34E-02	0.00E+00	2.34E-02
479033	7/2/2018 - 7/9/2018	Beta	1.61E-02	2.89E-03	3.39E-03
479854	7/9/2018 - 7/16/2018	Beta	2.51E-02	3.40E-03	3.48E-03
480224	7/16/2018 - 7/23/2018	Beta	1.95E-02	2.98E-03	3.17E-03
481051	7/23/2018 - 7/30/2018	Beta	2.02E-02	2.76E-03	2.84E-03
481495	7/30/2018 - 8/6/2018	Beta	1.10E-02	2.20E-03	2.66E-03
481928	8/6/2018 - 8/13/2018	Beta	2.29E-02	3.22E-03	3.32E-03
482460	8/13/2018 - 8/20/2018	Beta	2.44E-02	2.86E-03	2.63E-03
482785	8/20/2018 - 8/27/2018	Beta	1.99E-02	2.72E-03	2.79E-03
483410	8/27/2018 - 9/4/2018	Beta	1.72E-02	2.62E-03	2.81E-03
483985	9/4/2018 - 9/10/2018	Beta	2.05E-02	3.54E-03	4.01E-03
484155	9/10/2018 - 9/17/2018	Beta	7.34E-03	2.20E-03	2.90E-03
485006	9/17/2018 - 9/24/2018	Beta	2.70E-02	3.37E-03	3.09E-03
485236	9/24/2018 - 10/1/2018	Beta	2.05E-02	3.09E-03	3.29E-03
485460	7/2/2018 - 10/1/2018	Cs-134	<1.67E-03	0.00E+00	1.67E-03
		Cs-137	<1.23E-03	0.00E+00	1.23E-03
		Be-7	1.50E-01	3.86E-02	3.60E-02
		K-40	<2.25E-02	0.00E+00	2.25E-02
486127	10/1/2018 - 10/8/2018	Beta	3.10E-02	3.45E-03	2.99E-03
486676	10/8/2018 - 10/15/2018	Beta	1.78E-02	3.09E-03	3.43E-03
487715	10/15/2018 - 10/22/2018	Beta	2.58E-02	3.30E-03	3.05E-03



# HARRIS Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: AIR PARTICULATE Concentration (Activity): pCi/m3

Sample Point 4 [ INDICATOR - NNE @ 3.1 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
487962	10/22/2018 - 10/29/2018	Beta	1.77E-02	2.51E-03	2.54E-03
488447	10/29/2018 - 11/5/2018	Beta	1.82E-02	2.64E-03	2.70E-03
488823	11/5/2018 - 11/12/2018	Beta	1.85E-02	2.89E-03	3.06E-03
489127	11/12/2018 - 11/19/2018	Beta	1.76E-02	2.68E-03	2.97E-03
489712	11/19/2018 - 11/26/2018	Beta	2.70E-02	3.27E-03	2.99E-03
490128	11/26/2018 - 12/3/2018	Beta	2.28E-02	2.97E-03	3.12E-03
490774	12/3/2018 - 12/11/2018	Beta	2.14E-02	2.74E-03	2.53E-03
491154	12/11/2018 - 12/18/2018	Beta	2.17E-02	3.10E-03	3.13E-03
491458	12/18/2018 - 12/26/2018	Beta	1.98E-02	2.45E-03	2.40E-03
491714	12/26/2018 - 12/31/2018	Beta	2.80E-02	4.00E-03	4.28E-03
491723	10/1/2018 - 12/31/2018	Cs-134	<1.63E-03	0.00E+00	1.63E-03
		Cs-137	<1.34E-03	0.00E+00	1.34E-03
		Be-7	1.19E-01	3.20E-02	2.71E-02
		K-40	<3.19E-02	0.00E+00	3.19E-02

Sample Point 5 [ CONTROL - WNW @ 12 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
465969	1/2/2018 - 1/8/2018	Beta	2.75E-02	3.67E-03	3.64E-03
466169	1/8/2018 - 1/15/2018	Beta	1.66E-02	2.81E-03	3.08E-03
466367	1/15/2018 - 1/22/2018	Beta	2.70E-02	3.23E-03	2.83E-03
466955	1/22/2018 - 1/29/2018	Beta	1.42E-02	2.56E-03	3.05E-03
467314	1/29/2018 - 2/5/2018	Beta	1.56E-02	2.73E-03	3.05E-03
467623	2/5/2018 - 2/12/2018	Beta	1.66E-02	2.81E-03	3.06E-03
468415	2/12/2018 - 2/19/2018	Beta	1.67E-02	2.91E-03	3.39E-03
468736	2/19/2018 - 2/26/2018	Beta	1.25E-02	2.79E-03	3.55E-03
469548	2/26/2018 - 3/5/2018	Beta	2.15E-02	3.11E-03	3.28E-03
470570	3/5/2018 - 3/12/2018	Beta	2.44E-02	3.26E-03	3.22E-03
471137	3/12/2018 - 3/19/2018	Beta	2.30E-02	3.09E-03	3.02E-03
471692	3/19/2018 - 3/26/2018	Beta	1.46E-02	2.37E-03	2.50E-03



# HARRIS Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: AIR PARTICULATE Concentration (Activity): pCi/m3

Sample Point 5 [ CONTROL - WNW @ 12 miles ]

Sample ID	Sample Dates	Nuclide	Activity	2 Sigma Error	MDA
472470	3/26/2018 - 4/2/2018	Beta	1.40E-02	2.72E-03	3.22E-03
472479	1/2/2018 - 4/2/2018	Cs-134	<1.61E-03	0.00E+00	1.61E-03
		Cs-137	<1.32E-03	0.00E+00	1.32E-03
		Be-7	1.64E-01	3.76E-02	1.49E-02
		K-40	<3.21E-02	0.00E+00	3.21E-02
472954	4/2/2018 - 4/9/2018	Beta	2.01E-02	2.85E-03	3.12E-03
473245	4/9/2018 - 4/16/2018	Beta	2.29E-02	2.88E-03	2.91E-03
473610	4/16/2018 - 4/23/2018	Beta	1.74E-02	2.65E-03	2.90E-03
474130	4/23/2018 - 4/30/2018	Beta	1.45E-02	2.84E-03	3.46E-03
474508	4/30/2018 - 5/7/2018	Beta	2.57E-02	3.49E-03	3.64E-03
474867	5/7/2018 - 5/14/2018	Beta	2.43E-02	3.27E-03	3.25E-03
475191	5/14/2018 - 5/21/2018	Beta	9.46E-03	2.43E-03	3.13E-03
475516	5/21/2018 - 5/29/2018	Beta	1.03E-02	2.44E-03	3.21E-03
476341	5/29/2018 - 6/4/2018	Beta	1.51E-02	2.58E-03	2.73E-03
477353	6/4/2018 - 6/11/2018	Beta	2.26E-02	3.25E-03	3.50E-03
478083	6/11/2018 - 6/18/2018	Beta	2.46E-02	3.26E-03	3.12E-03
478403	6/18/2018 - 6/25/2018	Beta	2.40E-02	3.39E-03	3.55E-03
478754	6/25/2018 - 7/2/2018	Beta	1.90E-02	2.97E-03	3.17E-03
478763	4/2/2018 - 7/2/2018	Cs-134	<2.15E-03	0.00E+00	2.15E-03
		Cs-137	<1.19E-03	0.00E+00	1.19E-03
		Be-7	1.69E-01	3.80E-02	2.73E-02
		K-40	<2.53E-02	0.00E+00	2.53E-02
479035	7/2/2018 - 7/9/2018	Beta	1.63E-02	2.92E-03	3.42E-03
479856	7/9/2018 - 7/16/2018	Beta	2.39E-02	3.32E-03	3.46E-03
480226	7/16/2018 - 7/23/2018	Beta	2.05E-02	3.03E-03	3.18E-03
481053	7/23/2018 - 7/30/2018	Beta	2.06E-02	2.80E-03	2.87E-03
481497	7/30/2018 - 8/6/2018	Beta	9.90E-03	2.14E-03	2.64E-03
481930	8/6/2018 - 8/13/2018	Beta	1.95E-02	3.08E-03	3.33E-03



# HARRIS Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: AIR PARTICULATE Concentration (Activity): pCi/m3

Sample Point 5 [ CONTROL - WNW @ 12 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
482462	8/13/2018 - 8/20/2018	Beta	2.37E-02	2.83E-03	2.63E-03
482787	8/20/2018 - 8/27/2018	Beta	1.68E-02	2.58E-03	2.78E-03
483412	8/27/2018 - 9/4/2018	Beta	1.56E-02	2.54E-03	2.82E-03
483987	9/4/2018 - 9/10/2018	Beta	1.82E-02	3.42E-03	4.01E-03
484157	9/10/2018 - 9/17/2018	Beta	4.90E-03	2.07E-03	2.99E-03
485008	9/17/2018 - 9/24/2018	Beta	1.94E-02	3.00E-03	3.08E-03
485238	9/24/2018 - 10/1/2018	Beta	1.69E-02	2.85E-03	3.20E-03
485462	7/2/2018 - 10/1/2018	Cs-134	<1.42E-03	0.00E+00	1.42E-03
		Cs-137	<1.17E-03	0.00E+00	1.17E-03
		Be-7	1.35E-01	3.32E-02	2.51E-02
		K-40	<3.06E-02	0.00E+00	3.06E-02
486129	10/1/2018 - 10/8/2018	Beta	2.98E-02	3.47E-03	3.08E-03
486678	10/8/2018 - 10/15/2018	Beta	1.69E-02	2.80E-03	3.04E-03
487717	10/15/2018 - 10/22/2018	Beta	2.53E-02	3.27E-03	3.06E-03
487964	10/22/2018 - 10/29/2018	Beta	1.69E-02	2.49E-03	2.57E-03
488449	10/29/2018 - 11/5/2018	Beta	1.77E-02	2.59E-03	2.67E-03
488825	11/5/2018 - 11/12/2018	Beta	1.66E-02	2.80E-03	3.06E-03
489129	11/12/2018 - 11/19/2018	Beta	1.70E-02	2.66E-03	2.97E-03
489714	11/19/2018 - 11/26/2018	Beta	2.61E-02	3.23E-03	2.99E-03
490130	11/26/2018 - 12/3/2018	Beta	1.87E-02	2.79E-03	3.10E-03
490776	12/3/2018 - 12/11/2018	Beta	1.69E-02	2.51E-03	2.53E-03
491156	12/11/2018 - 12/18/2018	Beta	2.45E-02	3.22E-03	3.13E-03
491460	12/18/2018 - 12/26/2018	Beta	1.59E-02	2.30E-03	2.44E-03
491716	12/26/2018 - 12/31/2018	Beta	2.20E-02	3.64E-03	4.16E-03
491725	10/1/2018 - 12/31/2018	Cs-134	<1.59E-03	0.00E+00	1.59E-03
		Cs-137	<3.28E-04	0.00E+00	3.28E-04
		Be-7	1.25E-01	3.34E-02	2.62E-02
		K-40	<2.74E-02	0.00E+00	2.74E-02



# HARRIS Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: AIR PARTICULATE Concentration (Activity): pCi/m3

Sample Point 26 [ INDICATOR - S @ 4.7 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
465966	1/2/2018 - 1/8/2018	Beta	2.92E-02	3.78E-03	3.68E-03
466166	1/8/2018 - 1/15/2018	Beta	1.85E-02	2.89E-03	3.04E-03
466364	1/15/2018 - 1/22/2018	Beta	2.70E-02	3.22E-03	2.81E-03
466952	1/22/2018 - 1/29/2018	Beta	1.31E-02	2.52E-03	3.09E-03
467311	1/29/2018 - 2/5/2018	Beta	1.41E-02	2.67E-03	3.06E-03
467620	2/5/2018 - 2/12/2018	Beta	2.02E-02	2.99E-03	3.05E-03
468412	2/12/2018 - 2/19/2018	Beta	1.51E-02	2.85E-03	3.43E-03
468733	2/19/2018 - 2/26/2018	Beta	1.07E-02	2.66E-03	3.50E-03
469545	2/26/2018 - 3/5/2018	Beta	2.22E-02	3.20E-03	3.37E-03
470567	3/5/2018 - 3/12/2018	Beta	2.02E-02	3.07E-03	3.24E-03
471134	3/12/2018 - 3/19/2018	Beta	2.26E-02	3.07E-03	3.02E-03
471689	3/19/2018 - 3/26/2018	Beta	1.54E-02	2.42E-03	2.51E-03
472467	3/26/2018 - 4/2/2018	Beta	1.47E-02	2.76E-03	3.24E-03
472476	1/2/2018 - 4/2/2018	Cs-134	<1.42E-03	0.00E+00	1.42E-03
		Cs-137	<1.16E-03	0.00E+00	1.16E-03
		Be-7	1.43E-01	3.85E-02	3.81E-02
		K-40	<2.58E-02	0.00E+00	2.58E-02
472951	4/2/2018 - 4/9/2018	Beta	2.05E-02	2.86E-03	3.11E-03
473242	4/9/2018 - 4/16/2018	Beta	2.14E-02	2.81E-03	2.89E-03
473607	4/16/2018 - 4/23/2018	Beta	2.19E-02	2.87E-03	2.92E-03
474127	4/23/2018 - 4/30/2018	Beta	1.35E-02	2.80E-03	3.48E-03
474505	4/30/2018 - 5/7/2018	Beta	2.22E-02	3.27E-03	3.55E-03
474864	5/7/2018 - 5/14/2018	Beta	2.63E-02	3.38E-03	3.28E-03
475188	5/14/2018 - 5/21/2018	Beta	1.16E-02	2.57E-03	3.15E-03
475513	5/21/2018 - 5/29/2018	Beta	9.27E-03	2.39E-03	3.23E-03
476338	5/29/2018 - 6/4/2018	Beta	1.61E-02	2.56E-03	2.60E-03





# HARRIS Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: AIR PARTICULATE Concentration (Activity): pCi/m3

Sample Point 26 [ INDICATOR - S @ 4.7 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
477350	6/4/2018 - 6/11/2018	Beta	2.04E-02	3.23E-03	3.62E-03
478080	6/11/2018 - 6/18/2018	Beta	2.18E-02	3.14E-03	3.13E-03
478400	6/18/2018 - 6/25/2018	Beta	1.84E-02	3.06E-03	3.46E-03
478751	6/25/2018 - 7/2/2018	Beta	1.53E-02	2.75E-03	3.14E-03
478760	4/2/2018 - 7/2/2018	Cs-134	<1.39E-03	0.00E+00	1.39E-03
		Cs-137	<1.68E-03	0.00E+00	1.68E-03
		Be-7	1.25E-01	3.26E-02	2.77E-02
		K-40	<2.68E-02	0.00E+00	2.68E-02
479032	7/2/2018 - 7/9/2018	Beta	1.49E-02	2.88E-03	3.47E-03
479853	7/9/2018 - 7/16/2018	Beta	2.45E-02	3.33E-03	3.42E-03
480223	7/16/2018 - 7/23/2018	Beta	1.70E-02	3.42E-03	4.10E-03
481050	7/23/2018 - 7/30/2018	Beta	1.93E-02	2.76E-03	2.90E-03
481494	7/30/2018 - 8/6/2018	Beta	1.03E-02	2.17E-03	2.66E-03
481927	8/6/2018 - 8/13/2018	Beta	1.72E-02	2.94E-03	3.32E-03
482459	8/13/2018 - 8/20/2018	Beta	2.20E-02	2.77E-03	2.66E-03
482784	8/20/2018 - 8/27/2018	Beta	1.74E-02	2.59E-03	2.77E-03
483409	8/27/2018 - 9/4/2018	Beta	1.45E-02	2.49E-03	2.84E-03
483984	9/4/2018 - 9/10/2018	Beta	2.23E-02	3.59E-03	3.92E-03
484154	9/10/2018 - 9/17/2018	Beta	8.99E-03	2.81E-03	3.78E-03
485005	9/17/2018 - 9/24/2018	Beta	2.30E-02	3.16E-03	3.06E-03
485235	9/24/2018 - 10/1/2018	Beta	1.59E-02	2.79E-03	3.17E-03
485459	7/2/2018 - 10/1/2018	Cs-134	<2.33E-03	0.00E+00	2.33E-03
		Cs-137	<8.42E-04	0.00E+00	8.42E-04
		Be-7	1.33E-01	3.42E-02	2.73E-02
		K-40	<3.27E-02	0.00E+00	3.27E-02
486126	10/1/2018 - 10/8/2018	Beta	2.95E-02	3.42E-03	3.05E-03
486675	10/8/2018 - 10/11/2018	Beta	1.53E-02	4.82E-03	6.60E-03
487714	10/15/2018 - 10/22/2018	Beta	2.73E-02	3.34E-03	3.02E-03



# HARRIS Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: AIR PARTICULATE Concentration (Activity): pCi/m3

Sample Point 26 [ INDICATOR - S @ 4.7 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
487961	10/22/2018 - 10/29/2018	Beta	1.64E-02	2.46E-03	2.57E-03
488446	10/29/2018 - 11/5/2018	Beta	1.88E-02	2.64E-03	2.66E-03
488822	11/5/2018 - 11/12/2018	Beta	1.62E-02	2.78E-03	3.07E-03
489126	11/12/2018 - 11/19/2018	Beta	1.64E-02	2.62E-03	2.97E-03
489711	11/19/2018 - 11/26/2018	Beta	2.46E-02	3.15E-03	2.98E-03
490127	11/26/2018 - 12/3/2018	Beta	1.81E-02	2.77E-03	3.12E-03
490773	12/3/2018 - 12/11/2018	Beta	1.83E-02	2.59E-03	2.53E-03
491153	12/11/2018 - 12/18/2018	Beta	2.13E-02	3.07E-03	3.13E-03
491457	12/18/2018 - 12/26/2018	Beta	1.64E-02	2.31E-03	2.43E-03
491713	12/26/2018 - 12/31/2018	Beta	1.83E-02	3.46E-03	4.16E-03
491722	10/1/2018 - 12/31/2018	Cs-134	<1.02E-03	0.00E+00	1.02E-03
		Cs-137	<1.36E-03	0.00E+00	1.36E-03
		Be-7	1.11E-01	3.23E-02	3.11E-02
		K-40	<2.60E-02	0.00E+00	2.60E-02

Sample Point 47 [ INDICATOR - SSW @ 3.4 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
465968	1/2/2018 - 1/8/2018	Beta	2.33E-02	3.50E-03	3.68E-03
466168	1/8/2018 - 1/15/2018	Beta	1.78E-02	2.86E-03	3.04E-03
466366	1/15/2018 - 1/22/2018	Beta	2.68E-02	3.53E-03	3.26E-03
466954	1/22/2018 - 1/29/2018	Beta	1.62E-02	2.67E-03	3.08E-03
467313	1/29/2018 - 2/5/2018	Beta	1.27E-02	2.58E-03	3.06E-03
467622	2/5/2018 - 2/12/2018	Beta	1.84E-02	2.90E-03	3.05E-03
468414	2/12/2018 - 2/19/2018	Beta	1.42E-02	2.80E-03	3.43E-03
468735	2/19/2018 - 2/26/2018	Beta	1.05E-02	2.65E-03	3.50E-03
469547	2/26/2018 - 3/5/2018	Beta	1.95E-02	3.08E-03	3.40E-03
470569	3/5/2018 - 3/12/2018	Beta	2.10E-02	3.12E-03	3.26E-03
471136	3/12/2018 - 3/19/2018	Beta	2.43E-02	3.15E-03	3.02E-03
471691	3/19/2018 - 3/26/2018	Beta	1.41E-02	2.35E-03	2.51E-03



# HARRIS Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: AIR PARTICULATE Concentration (Activity): pCi/m3

Sample Point 47 [ INDICATOR - SSW @ 3.4 miles ]

Sample ID	Sample Dates	Nuclide	Activity	2 Sigma Error	MDA
472469	3/26/2018 - 4/2/2018	Beta	1.32E-02	2.69E-03	3.24E-03
472478	1/2/2018 - 4/2/2018	Cs-134	<1.29E-03	0.00E+00	1.29E-03
		Cs-137	<1.22E-03	0.00E+00	1.22E-03
		Be-7	1.27E-01	3.62E-02	3.53E-02
		K-40	<2.73E-02	0.00E+00	2.73E-02
472953	4/2/2018 - 4/9/2018	Beta	2.05E-02	2.87E-03	3.11E-03
473244	4/9/2018 - 4/16/2018	Beta	1.93E-02	2.72E-03	2.89E-03
473609	4/16/2018 - 4/23/2018	Beta	2.27E-02	2.91E-03	2.93E-03
474129	4/23/2018 - 4/30/2018	Beta	1.29E-02	2.76E-03	3.48E-03
474507	4/30/2018 - 5/7/2018	Beta	2.30E-02	3.30E-03	3.55E-03
474866	5/7/2018 - 5/14/2018	Beta	2.78E-02	3.45E-03	3.28E-03
475190	5/14/2018 - 5/21/2018	Beta	9.67E-03	2.45E-03	3.14E-03
475515	5/21/2018 - 5/29/2018	Beta	1.04E-02	2.45E-03	3.23E-03
476340	5/29/2018 - 6/4/2018	Beta	1.36E-02	2.42E-03	2.61E-03
477352	6/4/2018 - 6/11/2018	Beta	2.26E-02	3.28E-03	3.54E-03
478082	6/11/2018 - 6/18/2018	Beta	2.23E-02	3.20E-03	3.19E-03
478402	6/18/2018 - 6/25/2018	Beta	2.21E-02	3.24E-03	3.46E-03
478753	6/25/2018 - 7/2/2018	Beta	1.81E-02	2.91E-03	3.14E-03
478762	4/2/2018 - 7/2/2018	Cs-134	<2.25E-03	0.00E+00	2.25E-03
		Cs-137	<1.25E-03	0.00E+00	1.25E-03
		Be-7	1.17E-01	3.65E-02	4.06E-02
		K-40	1.54E-02	1.19E-02	1.41E-02
479034	7/2/2018 - 7/9/2018	Beta	1.62E-02	2.95E-03	3.47E-03
479855	7/9/2018 - 7/16/2018	Beta	2.64E-02	3.41E-03	3.42E-03
480225	7/16/2018 - 7/23/2018	Beta	2.18E-02	3.11E-03	3.20E-03
481052	7/23/2018 - 7/30/2018	Beta	2.07E-02	2.77E-03	2.82E-03
481496	7/30/2018 - 8/6/2018	Beta	1.15E-02	2.24E-03	2.66E-03
481929	8/6/2018 - 8/13/2018	Beta	2.35E-02	3.26E-03	3.31E-03



# HARRIS Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: AIR PARTICULATE Concentration (Activity): pCi/m3

Sample Point 47 [ INDICATOR - SSW @ 3.4 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
482461	8/13/2018 - 8/20/2018	Beta	2.24E-02	2.78E-03	2.66E-03
482786	8/20/2018 - 8/27/2018	Beta	1.64E-02	2.55E-03	2.77E-03
483411	8/27/2018 - 9/4/2018	Beta	1.59E-02	2.58E-03	2.84E-03
483986	9/4/2018 - 9/10/2018	Beta	1.79E-02	3.36E-03	3.92E-03
484156	9/10/2018 - 9/17/2018	Beta	9.20E-03	2.32E-03	2.90E-03
485007	9/17/2018 - 9/24/2018	Beta	2.70E-02	3.35E-03	3.06E-03
485237	9/24/2018 - 10/1/2018	Beta	1.44E-02	2.70E-03	3.17E-03
485461	7/2/2018 - 10/1/2018	Cs-134	<2.21E-03	0.00E+00	2.21E-03
		Cs-137	<1.45E-03	0.00E+00	1.45E-03
		Be-7	1.60E-01	4.15E-02	4.03E-02
		K-40	<1.96E-02	0.00E+00	1.96E-02
486128	10/1/2018 - 10/8/2018	Beta	3.12E-02	3.51E-03	3.05E-03
486677	10/8/2018 - 10/15/2018	Beta	1.53E-02	2.75E-03	3.09E-03
487716	10/15/2018 - 10/22/2018	Beta	2.42E-02	3.21E-03	3.04E-03
487963	10/22/2018 - 10/29/2018	Beta	1.59E-02	2.43E-03	2.57E-03
488448	10/29/2018 - 11/5/2018	Beta	2.03E-02	2.71E-03	2.66E-03
488824	11/5/2018 - 11/12/2018	Beta	1.77E-02	2.86E-03	3.07E-03
489128	11/12/2018 - 11/19/2018	Beta	1.56E-02	2.58E-03	2.97E-03
489713	11/19/2018 - 11/26/2018	Beta	2.44E-02	3.15E-03	2.98E-03
490129	11/26/2018 - 12/3/2018	Beta	1.75E-02	2.75E-03	3.12E-03
490775	12/3/2018 - 12/11/2018	Beta	1.61E-02	2.47E-03	2.53E-03
491155	12/11/2018 - 12/18/2018	Beta	1.93E-02	2.97E-03	3.13E-03
491459	12/18/2018 - 12/26/2018	Beta	1.62E-02	2.30E-03	2.43E-03
491715	12/26/2018 - 12/31/2018	Beta	2.20E-02	3.66E-03	4.17E-03
491724	10/1/2018 - 12/31/2018	Cs-134	<1.02E-03	0.00E+00	1.02E-03
		Cs-137	<1.71E-03	0.00E+00	1.71E-03
		Be-7	9.85E-02	3.08E-02	3.07E-02
		K-40	<2.42E-02	0.00E+00	2.42E-02



# HARRIS Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: AIR PARTICULATE Concentration (Activity): pCi/m3

Sample Point 63 [ INDICATOR - SW @ 0.6 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
465970	1/2/2018 - 1/8/2018	Beta	2.74E-02	3.68E-03	3.65E-03
466170	1/8/2018 - 1/15/2018	Beta	1.62E-02	2.78E-03	3.05E-03
466368	1/15/2018 - 1/22/2018	Beta	2.95E-02	3.29E-03	2.76E-03
466956	1/22/2018 - 1/29/2018	Beta	1.18E-02	2.48E-03	3.13E-03
467315	1/29/2018 - 2/5/2018	Beta	1.52E-02	2.71E-03	3.04E-03
467624	2/5/2018 - 2/12/2018	Beta	1.60E-02	2.78E-03	3.07E-03
468416	2/12/2018 - 2/19/2018	Beta	1.54E-02	2.81E-03	3.34E-03
468737	2/19/2018 - 2/26/2018	Beta	1.08E-02	2.73E-03	3.59E-03
469549	2/26/2018 - 3/5/2018	Beta	1.93E-02	3.05E-03	3.35E-03
470571	3/5/2018 - 3/12/2018	Beta	2.09E-02	3.05E-03	3.15E-03
471138	3/12/2018 - 3/19/2018	Beta	2.48E-02	3.14E-03	2.96E-03
471693	3/19/2018 - 3/26/2018	Beta	1.38E-02	2.37E-03	2.56E-03
472471	3/26/2018 - 4/2/2018	Beta	1.38E-02	2.71E-03	3.22E-03
472480	1/2/2018 - 4/2/2018	Cs-134	<1.24E-03	0.00E+00	1.24E-03
		Cs-137	<1.02E-03	0.00E+00	1.02E-03
		Be-7	1.38E-01	3.74E-02	3.64E-02
		K-40	1.16E-02	1.29E-02	2.00E-02
472955	4/2/2018 - 4/9/2018	Beta	2.09E-02	2.89E-03	3.12E-03
473246	4/9/2018 - 4/16/2018	Beta	1.86E-02	2.64E-03	2.84E-03
473611	4/16/2018 - 4/23/2018	Beta	1.81E-02	2.75E-03	3.00E-03
474131	4/23/2018 - 4/30/2018	Beta	1.16E-02	2.68E-03	3.44E-03
474509	4/30/2018 - 5/7/2018	Beta	1.74E-02	3.12E-03	3.67E-03
474868	5/7/2018 - 5/14/2018	Beta	2.29E-02	3.12E-03	3.14E-03
475192	5/14/2018 - 5/21/2018	Beta	9.80E-03	2.50E-03	3.21E-03
475517	5/21/2018 - 5/29/2018	Beta	9.81E-03	2.41E-03	3.21E-03
476342	5/29/2018 - 6/4/2018	Beta	1.46E-02	2.55E-03	2.74E-03



# HARRIS Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: AIR PARTICULATE Concentration (Activity): pCi/m3

Sample Point 63 [ INDICATOR - SW @ 0.6 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
477354	6/4/2018 - 6/11/2018	Beta	2.33E-02	3.23E-03	3.40E-03
478084	6/11/2018 - 6/18/2018	Beta	2.08E-02	3.13E-03	3.20E-03
478404	6/18/2018 - 6/25/2018	Beta	2.04E-02	3.15E-03	3.44E-03
478755	6/25/2018 - 7/2/2018	Beta	1.73E-02	2.92E-03	3.22E-03
478764	4/2/2018 - 7/2/2018	Cs-134	<3.76E-04	0.00E+00	3.76E-04
		Cs-137	<1.06E-03	0.00E+00	1.06E-03
		Be-7	1.74E-01	4.15E-02	3.69E-02
		K-40	1.54E-02	1.24E-02	1.60E-02
479036	7/2/2018 - 7/9/2018	Beta	1.23E-02	2.67E-03	3.36E-03
479857	7/9/2018 - 7/16/2018	Beta	2.44E-02	3.35E-03	3.46E-03
480227	7/16/2018 - 7/23/2018	Beta	1.76E-02	2.90E-03	3.19E-03
481054	7/23/2018 - 7/30/2018	Beta	2.11E-02	2.80E-03	2.84E-03
481498	7/30/2018 - 8/6/2018	Beta	9.00E-03	2.15E-03	2.74E-03
481931	8/6/2018 - 8/13/2018	Beta	1.97E-02	3.01E-03	3.21E-03
482463	8/13/2018 - 8/20/2018	Beta	2.31E-02	2.80E-03	2.63E-03
482788	8/20/2018 - 8/27/2018	Beta	1.85E-02	2.65E-03	2.78E-03
483413	8/27/2018 - 9/4/2018	Beta	1.69E-02	2.60E-03	2.81E-03
483988	9/4/2018 - 9/10/2018	Beta	2.08E-02	3.60E-03	4.07E-03
484158	9/10/2018 - 9/17/2018	Beta	7.65E-03	2.18E-03	2.83E-03
485009	9/17/2018 - 9/24/2018	Beta	2.20E-02	3.13E-03	3.09E-03
485239	9/24/2018 - 10/1/2018	Beta	1.58E-02	2.74E-03	3.10E-03
485463	7/2/2018 - 10/1/2018	Cs-134	<1.00E-03	0.00E+00	1.00E-03
		Cs-137	<1.20E-03	0.00E+00	1.20E-03
		Be-7	1.43E-01	3.70E-02	3.48E-02
		K-40	<3.81E-02	0.00E+00	3.81E-02
486130	10/1/2018 - 10/8/2018	Beta	2.65E-02	3.39E-03	3.18E-03
486679	10/8/2018 - 10/15/2018	Beta	1.65E-02	2.76E-03	3.00E-03
487718	10/15/2018 - 10/22/2018	Beta	2.34E-02	3.18E-03	3.06E-03



# HARRIS Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: AIR PARTICULATE Concentration (Activity): pCi/m3

Sample Point 63 [ INDICATOR - SW @ 0.6 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
487965	10/22/2018 - 10/29/2018	Beta	1.56E-02	2.38E-03	2.51E-03
488450	10/29/2018 - 11/5/2018	Beta	1.86E-02	2.67E-03	2.73E-03
488826	11/5/2018 - 11/12/2018	Beta	1.67E-02	2.80E-03	3.06E-03
489130	11/12/2018 - 11/19/2018	Beta	1.84E-02	2.72E-03	2.97E-03
489715	11/19/2018 - 11/26/2018	Beta	2.49E-02	3.14E-03	2.93E-03
490131	11/26/2018 - 12/3/2018	Beta	1.78E-02	2.78E-03	3.17E-03
490777	12/3/2018 - 12/11/2018	Beta	1.63E-02	2.49E-03	2.53E-03
491157	12/11/2018 - 12/18/2018	Beta	1.85E-02	2.94E-03	3.13E-03
491461	12/18/2018 - 12/26/2018	Beta	1.71E-02	2.33E-03	2.40E-03
491717	12/26/2018 - 12/31/2018	Beta	1.98E-02	3.61E-03	4.28E-03
491726	10/1/2018 - 12/31/2018	Cs-134	<1.59E-03	0.00E+00	1.59E-03
		Cs-137	<1.46E-03	0.00E+00	1.46E-03
		Be-7	1.02E-01	3.53E-02	4.09E-02
		K-40	<2.20E-02	0.00E+00	2.20E-02

## Sample Point 90 [ INDICATOR - SSW @ 0.5 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
465971	1/2/2018 - 1/8/2018	Beta	3.04E-02	3.81E-03	3.65E-03
466171	1/8/2018 - 1/15/2018	Beta	1.95E-02	2.95E-03	3.05E-03
466369	1/15/2018 - 1/22/2018	Beta	2.24E-02	2.97E-03	2.76E-03
466957	1/22/2018 - 1/29/2018	Beta	1.11E-02	2.44E-03	3.13E-03
467316	1/29/2018 - 2/5/2018	Beta	1.14E-02	2.49E-03	3.04E-03
467625	2/5/2018 - 2/12/2018	Beta	1.70E-02	2.83E-03	3.06E-03
468417	2/12/2018 - 2/19/2018	Beta	1.41E-02	2.75E-03	3.34E-03
468738	2/19/2018 - 2/26/2018	Beta	1.05E-02	2.70E-03	3.59E-03
469550	2/26/2018 - 3/5/2018	Beta	1.98E-02	3.07E-03	3.35E-03
470572	3/5/2018 - 3/12/2018	Beta	2.36E-02	3.18E-03	3.15E-03
471139	3/12/2018 - 3/19/2018	Beta	2.49E-02	3.14E-03	2.96E-03
471694	3/19/2018 - 3/26/2018	Beta	1.48E-02	2.42E-03	2.56E-03



# HARRIS Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: AIR PARTICULATE Concentration (Activity): pCi/m3

Sample Point 90 [ INDICATOR - SSW @ 0.5 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
472472	3/26/2018 - 4/2/2018	Beta	1.23E-02	2.62E-03	3.22E-03
472481	1/2/2018 - 4/2/2018	Cs-134	<1.67E-03	0.00E+00	1.67E-03
		Cs-137	<1.05E-03	0.00E+00	1.05E-03
		Be-7	1.76E-01	4.05E-02	3.11E-02
		K-40	<3.77E-02	0.00E+00	3.77E-02
472956	4/2/2018 - 4/9/2018	Beta	2.08E-02	2.88E-03	3.12E-03
473247	4/9/2018 - 4/16/2018	Beta	2.12E-02	2.76E-03	2.84E-03
473612	4/16/2018 - 4/23/2018	Beta	2.11E-02	2.89E-03	3.00E-03
474132	4/23/2018 - 4/30/2018	Beta	1.25E-02	2.72E-03	3.44E-03
474510	4/30/2018 - 5/7/2018	Beta	2.19E-02	3.33E-03	3.67E-03
474869	5/7/2018 - 5/14/2018	Beta	2.43E-02	3.19E-03	3.14E-03
475193	5/14/2018 - 5/21/2018	Beta	1.08E-02	2.56E-03	3.21E-03
475518	5/21/2018 - 5/29/2018	Beta	1.29E-02	2.56E-03	3.21E-03
476343	5/29/2018 - 6/4/2018	Beta	1.66E-02	2.67E-03	2.74E-03
477355	6/4/2018 - 6/11/2018	Beta	2.75E-02	3.41E-03	3.40E-03
478085	6/11/2018 - 6/18/2018	Beta	2.16E-02	3.17E-03	3.20E-03
478405	6/18/2018 - 6/25/2018	Beta	2.35E-02	3.29E-03	3.44E-03
478756	6/25/2018 - 7/2/2018	Beta	1.63E-02	2.85E-03	3.22E-03
478765	4/2/2018 - 7/2/2018	Cs-134	<1.59E-03	0.00E+00	1.59E-03
		Cs-137	<1.71E-03	0.00E+00	1.71E-03
		Be-7	2.08E-01	4.23E-02	1.90E-02
		K-40	<3.04E-02	0.00E+00	3.04E-02
479037	7/2/2018 - 7/9/2018	Beta	1.57E-02	2.86E-03	3.36E-03
479858	7/9/2018 - 7/16/2018	Beta	2.79E-02	3.50E-03	3.46E-03
480228	7/16/2018 - 7/23/2018	Beta	2.02E-02	3.02E-03	3.19E-03
481055	7/23/2018 - 7/30/2018	Beta	1.85E-02	2.68E-03	2.84E-03
481499	7/30/2018 - 8/6/2018	Beta	1.08E-02	2.25E-03	2.74E-03
481932	8/6/2018 - 8/13/2018	Beta	2.13E-02	3.08E-03	3.21E-03





# HARRIS Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: AIR PARTICULATE Concentration (Activity): pCi/m3

Sample Point 90 [ INDICATOR - SSW @ 0.5 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
482464	8/13/2018 - 8/20/2018	Beta	2.09E-02	2.70E-03	2.63E-03
482789	8/20/2018 - 8/27/2018	Beta	1.73E-02	2.60E-03	2.78E-03
483414	8/27/2018 - 9/4/2018	Beta	1.62E-02	2.57E-03	2.81E-03
483989	9/4/2018 - 9/10/2018	Beta	1.94E-02	3.53E-03	4.07E-03
484159	9/10/2018 - 9/17/2018	Beta	8.02E-03	2.20E-03	2.83E-03
485010	9/17/2018 - 9/24/2018	Beta	2.43E-02	3.24E-03	3.09E-03
485240	9/24/2018 - 10/1/2018	Beta	1.71E-02	2.80E-03	3.10E-03
485464	7/2/2018 - 10/1/2018	Cs-134	<2.41E-03	0.00E+00	2.41E-03
		Cs-137	<1.01E-03	0.00E+00	1.01E-03
		Be-7	1.38E-01	3.33E-02	2.37E-02
		K-40	<3.00E-02	0.00E+00	3.00E-02
486131	10/1/2018 - 10/8/2018	Beta	2.92E-02	3.51E-03	3.18E-03
486680	10/8/2018 - 10/15/2018	Beta	1.77E-02	2.82E-03	3.00E-03
487719	10/15/2018 - 10/22/2018	Beta	2.37E-02	3.20E-03	3.06E-03
487966	10/22/2018 - 10/29/2018	Beta	1.66E-02	2.43E-03	2.51E-03
488451	10/29/2018 - 11/5/2018	Beta	1.71E-02	2.60E-03	2.73E-03
488827	11/5/2018 - 11/12/2018	Beta	1.95E-02	2.94E-03	3.06E-03
489131	11/12/2018 - 11/19/2018	Beta	1.56E-02	2.58E-03	2.97E-03
489716	11/19/2018 - 11/26/2018	Beta	2.56E-02	3.17E-03	2.93E-03
490132	11/26/2018 - 12/3/2018	Beta	2.12E-02	2.93E-03	3.17E-03
490778	12/3/2018 - 12/11/2018	Beta	1.91E-02	2.63E-03	2.53E-03
491158	12/11/2018 - 12/18/2018	Beta	1.78E-02	2.90E-03	3.13E-03
491462	12/18/2018 - 12/26/2018	Beta	1.66E-02	2.30E-03	2.40E-03
491718	12/26/2018 - 12/31/2018	Beta	2.30E-02	3.77E-03	4.28E-03
491727	10/1/2018 - 12/31/2018	Cs-134	<1.65E-03	0.00E+00	1.65E-03
		Cs-137	<1.35E-03	0.00E+00	1.35E-03
		Be-7	8.64E-02	3.54E-02	4.67E-02
		K-40	<2.98E-02	0.00E+00	2.98E-02



# HARRIS Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: AIR PARTICULATE Concentration (Activity): pCi/m3

Sample Point 91 [ INDICATOR - ENE @ 1.6 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
465972	1/2/2018 - 1/8/2018	Beta	2.41E-02	3.55E-03	3.70E-03
466172	1/8/2018 - 1/15/2018	Beta	1.58E-02	2.75E-03	3.04E-03
466370	1/15/2018 - 1/22/2018	Beta	2.82E-02	3.22E-03	2.72E-03
466958	1/22/2018 - 1/29/2018	Beta	1.27E-02	2.54E-03	3.15E-03
467317	1/29/2018 - 2/5/2018	Beta	1.27E-02	2.58E-03	3.07E-03
467626	2/5/2018 - 2/12/2018	Beta	1.55E-02	2.74E-03	3.05E-03
468418	2/12/2018 - 2/19/2018	Beta	1.48E-02	2.76E-03	3.31E-03
468739	2/19/2018 - 2/26/2018	Beta	1.20E-02	2.82E-03	3.63E-03
469551	2/26/2018 - 3/5/2018	Beta	1.72E-02	2.91E-03	3.30E-03
470573	3/5/2018 - 3/12/2018	Beta	2.18E-02	3.13E-03	3.21E-03
471140	3/12/2018 - 3/19/2018	Beta	2.47E-02	3.12E-03	2.93E-03
471695	3/19/2018 - 3/26/2018	Beta	1.47E-02	2.43E-03	2.58E-03
472473	3/26/2018 - 4/2/2018	Beta	1.24E-02	2.64E-03	3.24E-03
472482	1/2/2018 - 4/2/2018	Cs-134	<1.41E-03	0.00E+00	1.41E-03
		Cs-137	<1.40E-03	0.00E+00	1.40E-03
		Be-7	1.62E-01	3.58E-02	1.70E-02
		K-40	<2.94E-02	0.00E+00	2.94E-02
472957	4/2/2018 - 4/9/2018	Beta	1.86E-02	2.78E-03	3.11E-03
473248	4/9/2018 - 4/16/2018	Beta	2.09E-02	2.73E-03	2.81E-03
473613	4/16/2018 - 4/23/2018	Beta	1.97E-02	2.81E-03	2.99E-03
474133	4/23/2018 - 4/30/2018	Beta	1.15E-02	2.71E-03	3.52E-03
474511	4/30/2018 - 5/7/2018	Beta	2.42E-02	3.39E-03	3.59E-03
474870	5/7/2018 - 5/14/2018	Beta	2.64E-02	3.30E-03	3.15E-03
475194	5/14/2018 - 5/21/2018	Beta	1.08E-02	2.57E-03	3.23E-03
475519	5/21/2018 - 5/29/2018	Beta	1.31E-02	2.59E-03	3.23E-03
476344	5/29/2018 - 6/4/2018	Beta	1.69E-02	2.65E-03	2.69E-03



# HARRIS Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: AIR PARTICULATE Concentration (Activity): pCi/m3

Sample Point 91 [ INDICATOR - ENE @ 1.6 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
477356	6/4/2018 - 6/11/2018	Beta	2.49E-02	3.30E-03	3.41E-03
478086	6/11/2018 - 6/18/2018	Beta	2.32E-02	3.26E-03	3.23E-03
478406	6/18/2018 - 6/25/2018	Beta	2.52E-02	3.38E-03	3.45E-03
478757	6/25/2018 - 7/2/2018	Beta	2.00E-02	3.00E-03	3.14E-03
478766	4/2/2018 - 7/2/2018	Cs-134	<2.09E-03	0.00E+00	2.09E-03
		Cs-137	<1.16E-03	0.00E+00	1.16E-03
		Be-7	1.64E-01	3.77E-02	3.00E-02
		K-40	2.25E-02	1.33E-02	1.29E-02
479038	7/2/2018 - 7/9/2018	Beta	1.63E-02	2.93E-03	3.43E-03
479859	7/9/2018 - 7/16/2018	Beta	3.06E-02	3.61E-03	3.46E-03
480229	7/16/2018 - 7/23/2018	Beta	2.21E-02	3.12E-03	3.19E-03
481056	7/23/2018 - 7/30/2018	Beta	2.02E-02	2.75E-03	2.83E-03
481500	7/30/2018 - 8/6/2018	Beta	8.69E-03	2.07E-03	2.64E-03
481933	8/6/2018 - 8/13/2018	Beta	1.95E-02	3.07E-03	3.34E-03
482465	8/13/2018 - 8/20/2018	Beta	2.02E-02	2.67E-03	2.65E-03
482790	8/20/2018 - 8/27/2018	Beta	2.00E-02	2.72E-03	2.78E-03
483415	8/27/2018 - 9/4/2018	Beta	1.55E-02	2.54E-03	2.81E-03
483990	9/4/2018 - 9/10/2018	Beta	1.97E-02	3.49E-03	3.98E-03
484160	9/10/2018 - 9/17/2018	Beta	7.83E-03	2.22E-03	2.89E-03
485011	9/17/2018 - 9/24/2018	Beta	2.28E-02	3.15E-03	3.05E-03
485241	9/24/2018 - 10/1/2018	Beta	1.61E-02	2.76E-03	3.11E-03
485465	7/2/2018 - 10/1/2018	Cs-134	<1.99E-03	0.00E+00	1.99E-03
		Cs-137	<1.39E-03	0.00E+00	1.39E-03
		Be-7	1.46E-01	3.89E-02	3.85E-02
		K-40	<3.02E-02	0.00E+00	3.02E-02
486132	10/1/2018 - 10/8/2018	Beta	3.01E-02	3.54E-03	3.17E-03
486681	10/8/2018 - 10/15/2018	Beta	1.78E-02	2.85E-03	3.05E-03
487720	10/15/2018 - 10/22/2018	Beta	2.45E-02	3.23E-03	3.04E-03



# HARRIS Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: AIR PARTICULATE Concentration (Activity): pCi/m3

Sample Point 91 [ INDICATOR - ENE @ 1.6 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
487967	10/22/2018 - 10/29/2018	Beta	1.67E-02	2.43E-03	2.50E-03
488452	10/29/2018 - 11/5/2018	Beta	1.96E-02	2.74E-03	2.75E-03
488828	11/5/2018 - 11/12/2018	Beta	1.91E-02	2.93E-03	3.07E-03
489132	11/12/2018 - 11/19/2018	Beta	1.93E-02	2.76E-03	2.97E-03
489717	11/19/2018 - 11/26/2018	Beta	2.74E-02	3.23E-03	2.91E-03
490133	11/26/2018 - 12/3/2018	Beta	2.06E-02	2.94E-03	3.21E-03
490779	12/3/2018 - 12/11/2018	Beta	1.88E-02	2.62E-03	2.53E-03
491159	12/11/2018 - 12/18/2018	Beta	2.03E-02	3.01E-03	3.12E-03
491463	12/18/2018 - 12/26/2018	Beta	1.66E-02	2.29E-03	2.38E-03
491719	12/26/2018 - 12/31/2018	Beta	2.31E-02	3.80E-03	4.34E-03
491728	10/1/2018 - 12/31/2018	Cs-134	<1.89E-03	0.00E+00	1.89E-03
		Cs-137	<1.73E-03	0.00E+00	1.73E-03
		Be-7	1.29E-01	3.34E-02	2.86E-02
		K-40	<3.25E-02	0.00E+00	3.25E-02

Media Type: AIR RADIOIODINE Concentration (Activity): pCi/m3

Sample Point 1 [ INDICATOR - N @ 2.6 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
465973	1/2/2018 - 1/8/2018	I-131	<2.38E-02	0.00E+00	2.38E-02
		Cs-134	<1.84E-02	0.00E+00	1.84E-02
		Cs-137	<2.26E-02	0.00E+00	2.26E-02
		Be-7	<1.34E-01	0.00E+00	1.34E-01
		K-40	5.26E-01	2.26E-01	2.62E-01
466173	1/8/2018 - 1/15/2018	I-131	<2.55E-02	0.00E+00	2.55E-02
		Cs-134	<1.69E-02	0.00E+00	1.69E-02
		Cs-137	<1.72E-02	0.00E+00	1.72E-02
		Be-7	<1.27E-01	0.00E+00	1.27E-01
		K-40	5.25E-01	2.00E-01	2.08E-01
466371	1/15/2018 - 1/22/2018	I-131	<2.44E-02	0.00E+00	2.44E-02
		Cs-134	<1.93E-02	0.00E+00	1.93E-02
		Cs-137	<1.87E-02	0.00E+00	1.87E-02
		Be-7	<9.96E-02	0.00E+00	9.96E-02
		K-40	<3.53E-01	0.00E+00	3.53E-01
466959	1/22/2018 - 1/29/2018	I-131	<1.78E-02	0.00E+00	1.78E-02
		Cs-134	<1.39E-02	0.00E+00	1.39E-02
		Cs-137	<1.84E-02	0.00E+00	1.84E-02
		Be-7	<1.17E-01	0.00E+00	1.17E-01
		K-40	5.54E-01	1.99E-01	1.88E-01
467318	1/29/2018 - 2/5/2018	I-131	<2.39E-02	0.00E+00	2.39E-02
		Cs-134	<1.50E-02	0.00E+00	1.50E-02
		Cs-137	<1.62E-02	0.00E+00	1.62E-02



# HARRIS Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: AIR RADIOIODINE Concentration (Activity): pCi/m3

Sample Point 1 [ INDICATOR - N @ 2.6 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
467318	1/29/2018 - 2/5/2018	Be-7	<1.12E-01	0.00E+00	1.12E-01
		K-40	4.36E-01	1.73E-01	1.69E-01
467627	2/5/2018 - 2/12/2018	I-131	<2.09E-02	0.00E+00	2.09E-02
		Cs-134	<1.53E-02	0.00E+00	1.53E-02
		Cs-137	<1.80E-02	0.00E+00	1.80E-02
		Be-7	<1.03E-01	0.00E+00	1.03E-01
		K-40	4.39E-01	1.79E-01	1.83E-01
468419	2/12/2018 - 2/19/2018	I-131	<2.66E-02	0.00E+00	2.66E-02
		Cs-134	<1.22E-02	0.00E+00	1.22E-02
		Cs-137	<1.59E-02	0.00E+00	1.59E-02
		Be-7	<1.04E-01	0.00E+00	1.04E-01
		K-40	4.66E-01	1.75E-01	1.63E-01
468740	2/19/2018 - 2/26/2018	I-131	<2.10E-02	0.00E+00	2.10E-02
		Cs-134	<1.87E-02	0.00E+00	1.87E-02
		Cs-137	<1.94E-02	0.00E+00	1.94E-02
		Be-7	<1.22E-01	0.00E+00	1.22E-01
		K-40	4.62E-01	1.76E-01	1.54E-01
469552	2/26/2018 - 3/5/2018	I-131	<2.65E-02	0.00E+00	2.65E-02
		Cs-134	<1.29E-02	0.00E+00	1.29E-02
		Cs-137	<1.78E-02	0.00E+00	1.78E-02
		Be-7	<1.37E-01	0.00E+00	1.37E-01
		K-40	7.29E-01	2.18E-01	1.62E-01
470574	3/5/2018 - 3/12/2018	I-131	<2.13E-02	0.00E+00	2.13E-02
		Cs-134	<1.66E-02	0.00E+00	1.66E-02
		Cs-137	<1.83E-02	0.00E+00	1.83E-02
		Be-7	<1.15E-01	0.00E+00	1.15E-01
		K-40	5.41E-01	1.90E-01	1.67E-01
471141	3/12/2018 - 3/19/2018	I-131	<2.25E-02	0.00E+00	2.25E-02
		Cs-134	<1.89E-02	0.00E+00	1.89E-02
		Cs-137	<1.88E-02	0.00E+00	1.88E-02
		Be-7	<1.08E-01	0.00E+00	1.08E-01
		K-40	3.94E-01	1.76E-01	2.01E-01
471696	3/19/2018 - 3/26/2018	I-131	<2.36E-02	0.00E+00	2.36E-02
		Cs-134	<2.15E-02	0.00E+00	2.15E-02
		Cs-137	<1.97E-02	0.00E+00	1.97E-02
		Be-7	<1.10E-01	0.00E+00	1.10E-01
		K-40	5.02E-01	2.02E-01	2.23E-01
472483	3/26/2018 - 4/2/2018	I-131	<2.18E-02	0.00E+00	2.18E-02
		Cs-134	<1.42E-02	0.00E+00	1.42E-02
		Cs-137	<1.81E-02	0.00E+00	1.81E-02
		Be-7	<1.17E-01	0.00E+00	1.17E-01
		K-40	5.40E-01	1.85E-01	1.53E-01
472958	4/2/2018 - 4/9/2018	I-131	<2.39E-02	0.00E+00	2.39E-02
		Cs-134	<1.75E-02	0.00E+00	1.75E-02
		Cs-137	<1.66E-02	0.00E+00	1.66E-02
		Be-7	<1.25E-01	0.00E+00	1.25E-01
		K-40	4.52E-01	2.21E-01	2.92E-01
473249	4/9/2018 - 4/16/2018	I-131	<2.06E-02	0.00E+00	2.06E-02



# HARRIS Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: AIR RADIOIODINE Concentration (Activity): pCi/m3

Sample Point 1 [ INDICATOR - N @ 2.6 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
473249	4/9/2018 - 4/16/2018	Cs-134	<1.70E-02	0.00E+00	1.70E-02
		Cs-137	<1.51E-02	0.00E+00	1.51E-02
		Be-7	<1.44E-01	0.00E+00	1.44E-01
		K-40	4.90E-01	1.73E-01	1.36E-01
473614	4/16/2018 - 4/23/2018	I-131	<2.48E-02	0.00E+00	2.48E-02
		Cs-134	<2.15E-02	0.00E+00	2.15E-02
		Cs-137	<1.63E-02	0.00E+00	1.63E-02
		Be-7	<1.05E-01	0.00E+00	1.05E-01
		K-40	2.27E-01	1.62E-01	2.30E-01
474134	4/23/2018 - 4/30/2018	I-131	<2.37E-02	0.00E+00	2.37E-02
		Cs-134	<1.71E-02	0.00E+00	1.71E-02
		Cs-137	<1.76E-02	0.00E+00	1.76E-02
		Be-7	<1.29E-01	0.00E+00	1.29E-01
		K-40	5.68E-01	1.96E-01	1.79E-01
474512	4/30/2018 - 5/7/2018	I-131	<2.23E-02	0.00E+00	2.23E-02
		Cs-134	<1.54E-02	0.00E+00	1.54E-02
		Cs-137	<1.72E-02	0.00E+00	1.72E-02
		Be-7	<1.20E-01	0.00E+00	1.20E-01
		K-40	6.24E-01	1.87E-01	3.52E-02
474871	5/7/2018 - 5/14/2018	I-131	<2.30E-02	0.00E+00	2.30E-02
		Cs-134	<1.48E-02	0.00E+00	1.48E-02
		Cs-137	<1.74E-02	0.00E+00	1.74E-02
		Be-7	<1.16E-01	0.00E+00	1.16E-01
		K-40	4.34E-01	1.79E-01	1.92E-01
475195	5/14/2018 - 5/21/2018	I-131	<2.12E-02	0.00E+00	2.12E-02
		Cs-134	<1.71E-02	0.00E+00	1.71E-02
		Cs-137	<1.93E-02	0.00E+00	1.93E-02
		Be-7	<1.26E-01	0.00E+00	1.26E-01
		K-40	5.13E-01	2.14E-01	2.51E-01
475520	5/21/2018 - 5/29/2018	I-131	<2.06E-02	0.00E+00	2.06E-02
		Cs-134	<1.67E-02	0.00E+00	1.67E-02
		Cs-137	<1.62E-02	0.00E+00	1.62E-02
		Be-7	<1.08E-01	0.00E+00	1.08E-01
		K-40	4.99E-01	1.54E-01	3.01E-02
476345	5/29/2018 - 6/4/2018	I-131	<2.96E-02	0.00E+00	2.96E-02
		Cs-134	<2.10E-02	0.00E+00	2.10E-02
		Cs-137	<1.51E-02	0.00E+00	1.51E-02
		Be-7	<1.61E-01	0.00E+00	1.61E-01
		K-40	5.38E-01	2.36E-01	2.82E-01
477357	6/4/2018 - 6/11/2018	I-131	<1.97E-02	0.00E+00	1.97E-02
		Cs-134	<1.95E-02	0.00E+00	1.95E-02
		Cs-137	<1.46E-02	0.00E+00	1.46E-02
		Be-7	<1.27E-01	0.00E+00	1.27E-01
		K-40	4.16E-01	1.94E-01	2.38E-01
478087	6/11/2018 - 6/18/2018	I-131	<2.53E-02	0.00E+00	2.53E-02
		Cs-134	<1.79E-02	0.00E+00	1.79E-02
		Cs-137	<1.98E-02	0.00E+00	1.98E-02
		Be-7	<1.30E-01	0.00E+00	1.30E-01
		K-40	5.14E-01	2.15E-01	2.53E-01



# HARRIS Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: AIR RADIOIODINE Concentration (Activity): pCi/m3

Sample Point 1 [ INDICATOR - N @ 2.6 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
478407	6/18/2018 - 6/25/2018	I-131	<2.24E-02	0.00E+00	2.24E-02
		Cs-134	<1.24E-02	0.00E+00	1.24E-02
		Cs-137	<1.72E-02	0.00E+00	1.72E-02
		Be-7	<1.22E-01	0.00E+00	1.22E-01
		K-40	5.32E-01	2.20E-01	2.64E-01
478767	6/25/2018 - 7/2/2018	I-131	<2.27E-02	0.00E+00	2.27E-02
		Cs-134	<1.53E-02	0.00E+00	1.53E-02
		Cs-137	<1.60E-02	0.00E+00	1.60E-02
		Be-7	<1.21E-01	0.00E+00	1.21E-01
		K-40	4.26E-01	1.98E-01	2.44E-01
479039	7/2/2018 - 7/9/2018	I-131	<1.73E-02	0.00E+00	1.73E-02
		Cs-134	<1.76E-02	0.00E+00	1.76E-02
		Cs-137	<1.60E-02	0.00E+00	1.60E-02
		Be-7	<1.05E-01	0.00E+00	1.05E-01
		K-40	5.67E-01	2.27E-01	2.74E-01
479860	7/9/2018 - 7/16/2018	I-131	<1.92E-02	0.00E+00	1.92E-02
		Cs-134	<2.10E-02	0.00E+00	2.10E-02
		Cs-137	<1.84E-02	0.00E+00	1.84E-02
		Be-7	<1.26E-01	0.00E+00	1.26E-01
		K-40	<4.20E-01	0.00E+00	4.20E-01
480230	7/16/2018 - 7/23/2018	I-131	<2.12E-02	0.00E+00	2.12E-02
		Cs-134	<1.91E-02	0.00E+00	1.91E-02
		Cs-137	<1.52E-02	0.00E+00	1.52E-02
		Be-7	<1.20E-01	0.00E+00	1.20E-01
		K-40	5.84E-01	2.00E-01	1.85E-01
481057	7/23/2018 - 7/30/2018	I-131	<2.46E-02	0.00E+00	2.46E-02
		Cs-134	<2.07E-02	0.00E+00	2.07E-02
		Cs-137	<1.44E-02	0.00E+00	1.44E-02
		Be-7	<1.19E-01	0.00E+00	1.19E-01
		K-40	4.59E-01	1.80E-01	1.74E-01
481501	7/30/2018 - 8/6/2018	I-131	<2.39E-02	0.00E+00	2.39E-02
		Cs-134	<1.22E-02	0.00E+00	1.22E-02
		Cs-137	<1.65E-02	0.00E+00	1.65E-02
		Be-7	<1.15E-01	0.00E+00	1.15E-01
		K-40	4.53E-01	1.78E-01	1.80E-01
481934	8/6/2018 - 8/13/2018	I-131	<1.94E-02	0.00E+00	1.94E-02
		Cs-134	<1.85E-02	0.00E+00	1.85E-02
		Cs-137	<1.58E-02	0.00E+00	1.58E-02
		Be-7	<1.04E-01	0.00E+00	1.04E-01
		K-40	5.52E-01	2.00E-01	1.92E-01
482466	8/13/2018 - 8/20/2018	I-131	<1.64E-02	0.00E+00	1.64E-02
		Cs-134	<1.61E-02	0.00E+00	1.61E-02
		Cs-137	<1.52E-02	0.00E+00	1.52E-02
		Be-7	<1.15E-01	0.00E+00	1.15E-01
		K-40	2.92E-01	1.39E-01	1.33E-01
482791	8/20/2018 - 8/27/2018	I-131	<1.43E-02	0.00E+00	1.43E-02
		Cs-134	<1.41E-02	0.00E+00	1.41E-02
		Cs-137	<1.63E-02	0.00E+00	1.63E-02
		Be-7	<7.62E-02	0.00E+00	7.62E-02
		K-40	1.39E-01	1.23E-01	1.83E-01



# HARRIS Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: AIR RADIOIODINE Concentration (Activity): pCi/m3

Sample Point 1 [ INDICATOR - N @ 2.6 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
483416	8/27/2018 - 9/4/2018	I-131	<1.79E-02	0.00E+00	1.79E-02
		Cs-134	<1.74E-02	0.00E+00	1.74E-02
		Cs-137	<1.64E-02	0.00E+00	1.64E-02
		Be-7	<9.63E-02	0.00E+00	9.63E-02
		K-40	5.51E-01	1.84E-01	1.76E-01
483991	9/4/2018 - 9/10/2018	I-131	<2.02E-02	0.00E+00	2.02E-02
		Cs-134	<1.92E-02	0.00E+00	1.92E-02
		Cs-137	<2.21E-02	0.00E+00	2.21E-02
		Be-7	<1.33E-01	0.00E+00	1.33E-01
		K-40	7.99E-01	2.47E-01	1.84E-01
484161	9/10/2018 - 9/17/2018	I-131	<3.41E-02	0.00E+00	3.41E-02
		Cs-134	<1.44E-02	0.00E+00	1.44E-02
		Cs-137	<1.79E-02	0.00E+00	1.79E-02
		Be-7	<1.17E-01	0.00E+00	1.17E-01
		K-40	3.55E-01	1.58E-01	1.61E-01
485012	9/17/2018 - 9/24/2018	I-131	<2.54E-02	0.00E+00	2.54E-02
		Cs-134	<1.54E-02	0.00E+00	1.54E-02
		Cs-137	<1.99E-02	0.00E+00	1.99E-02
		Be-7	<1.24E-01	0.00E+00	1.24E-01
		K-40	4.60E-01	1.80E-01	1.75E-01
485242	9/24/2018 - 10/1/2018	I-131	<3.04E-02	0.00E+00	3.04E-02
		Cs-134	<1.81E-02	0.00E+00	1.81E-02
		Cs-137	<1.19E-02	0.00E+00	1.19E-02
		Be-7	<1.34E-01	0.00E+00	1.34E-01
		K-40	5.39E-01	1.77E-01	1.18E-01
486136	10/1/2018 - 10/8/2018	I-131	<2.35E-02	0.00E+00	2.35E-02
		Cs-134	<1.93E-02	0.00E+00	1.93E-02
		Cs-137	<1.59E-02	0.00E+00	1.59E-02
		Be-7	<1.34E-01	0.00E+00	1.34E-01
		K-40	5.95E-01	1.98E-01	1.56E-01
486682	10/8/2018 - 10/15/2018	I-131	<2.66E-02	0.00E+00	2.66E-02
		Cs-134	<2.51E-02	0.00E+00	2.51E-02
		Cs-137	<2.02E-02	0.00E+00	2.02E-02
		Be-7	<1.37E-01	0.00E+00	1.37E-01
		K-40	5.69E-01	2.31E-01	2.54E-01
487721	10/15/2018 - 10/22/2018	I-131	<2.30E-02	0.00E+00	2.30E-02
		Cs-134	<1.36E-02	0.00E+00	1.36E-02
		Cs-137	<1.55E-02	0.00E+00	1.55E-02
		Be-7	<1.17E-01	0.00E+00	1.17E-01
		K-40	6.73E-01	1.94E-01	3.51E-02
487968	10/22/2018 - 10/29/2018	I-131	<2.28E-02	0.00E+00	2.28E-02
		Cs-134	<1.55E-02	0.00E+00	1.55E-02
		Cs-137	<1.32E-02	0.00E+00	1.32E-02
		Be-7	<1.18E-01	0.00E+00	1.18E-01
		K-40	5.93E-01	1.92E-01	1.49E-01
488453	10/29/2018 - 11/5/2018	I-131	<2.06E-02	0.00E+00	2.06E-02
		Cs-134	<1.99E-02	0.00E+00	1.99E-02
		Cs-137	<1.80E-02	0.00E+00	1.80E-02
		Be-7	<1.36E-01	0.00E+00	1.36E-01
		K-40	4.34E-01	1.84E-01	1.98E-01





# HARRIS Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: AIR RADIOIODINE Concentration (Activity): pCi/m3

Sample Point 1 [ INDICATOR - N @ 2.6 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
488829	11/5/2018 - 11/12/2018	I-131	<2.12E-02	0.00E+00	2.12E-02
		Cs-134	<1.51E-02	0.00E+00	1.51E-02
		Cs-137	<1.68E-02	0.00E+00	1.68E-02
		Be-7	<1.37E-01	0.00E+00	1.37E-01
		K-40	3.62E-01	1.72E-01	2.01E-01

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
489133	11/12/2018 - 11/19/2018	I-131	<1.66E-02	0.00E+00	1.66E-02
		Cs-134	<1.53E-02	0.00E+00	1.53E-02
		Cs-137	<1.89E-02	0.00E+00	1.89E-02
		Be-7	<1.05E-01	0.00E+00	1.05E-01
		K-40	4.87E-01	1.89E-01	1.93E-01

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
489718	11/19/2018 - 11/26/2018	I-131	<2.01E-02	0.00E+00	2.01E-02
		Cs-134	<1.48E-02	0.00E+00	1.48E-02
		Cs-137	<1.65E-02	0.00E+00	1.65E-02
		Be-7	<1.19E-01	0.00E+00	1.19E-01
		K-40	4.88E-01	1.83E-01	1.77E-01

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
490134	11/26/2018 - 12/3/2018	I-131	<2.17E-02	0.00E+00	2.17E-02
		Cs-134	<1.83E-02	0.00E+00	1.83E-02
		Cs-137	<1.82E-02	0.00E+00	1.82E-02
		Be-7	<1.28E-01	0.00E+00	1.28E-01
		K-40	5.13E-01	2.00E-01	2.14E-01

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
490780	12/3/2018 - 12/11/2018	I-131	<1.88E-02	0.00E+00	1.88E-02
		Cs-134	<1.33E-02	0.00E+00	1.33E-02
		Cs-137	<1.60E-02	0.00E+00	1.60E-02
		Be-7	<1.19E-01	0.00E+00	1.19E-01
		K-40	4.79E-01	1.63E-01	1.30E-01

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
491160	12/11/2018 - 12/18/2018	I-131	<1.69E-02	0.00E+00	1.69E-02
		Cs-134	<1.80E-02	0.00E+00	1.80E-02
		Cs-137	<1.90E-02	0.00E+00	1.90E-02
		Be-7	<1.13E-01	0.00E+00	1.13E-01
		K-40	2.66E-01	1.69E-01	2.31E-01

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
491464	12/18/2018 - 12/26/2018	I-131	<3.43E-02	0.00E+00	3.43E-02
		Cs-134	<1.15E-02	0.00E+00	1.15E-02
		Cs-137	<1.60E-02	0.00E+00	1.60E-02
		Be-7	<9.69E-02	0.00E+00	9.69E-02
		K-40	<2.78E-01	0.00E+00	2.78E-01

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
491729	12/26/2018 - 12/31/2018	I-131	<4.80E-02	0.00E+00	4.80E-02
		Cs-134	<2.25E-02	0.00E+00	2.25E-02
		Cs-137	<2.35E-02	0.00E+00	2.35E-02
		Be-7	<2.24E-01	0.00E+00	2.24E-01
		K-40	1.08E+00	2.99E-01	5.14E-02

Sample Point 2 [ INDICATOR - NNE @ 1.4 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
465974	1/2/2018 - 1/8/2018	I-131	<2.44E-02	0.00E+00	2.44E-02
		Cs-134	<1.84E-02	0.00E+00	1.84E-02
		Cs-137	<2.11E-02	0.00E+00	2.11E-02
		Be-7	<1.34E-01	0.00E+00	1.34E-01
		K-40	5.32E-01	2.33E-01	2.80E-01

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
466174	1/8/2018 - 1/15/2018	I-131	<2.53E-02	0.00E+00	2.53E-02
		Cs-134	<1.37E-02	0.00E+00	1.37E-02
		Cs-137	<2.07E-02	0.00E+00	2.07E-02



# HARRIS Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: AIR RADIOIODINE Concentration (Activity): pCi/m3

Sample Point 2 [ INDICATOR - NNE @ 1.4 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
466174	1/8/2018 - 1/15/2018	Be-7	<1.15E-01	0.00E+00	1.15E-01
		K-40	4.62E-01	2.09E-01	2.59E-01
466372	1/15/2018 - 1/19/2018	I-131	<4.88E-02	0.00E+00	4.88E-02
		Cs-134	<3.95E-02	0.00E+00	3.95E-02
		Cs-137	<3.28E-02	0.00E+00	3.28E-02
		Be-7	<2.45E-01	0.00E+00	2.45E-01
		K-40	<7.82E-01	0.00E+00	7.82E-01
466960	1/22/2018 - 1/29/2018	I-131	<2.29E-02	0.00E+00	2.29E-02
		Cs-134	<2.05E-02	0.00E+00	2.05E-02
		Cs-137	<1.80E-02	0.00E+00	1.80E-02
		Be-7	<1.35E-01	0.00E+00	1.35E-01
		K-40	4.59E-01	1.88E-01	1.98E-01
467319	1/29/2018 - 2/5/2018	I-131	<2.74E-02	0.00E+00	2.74E-02
		Cs-134	<1.84E-02	0.00E+00	1.84E-02
		Cs-137	<1.35E-02	0.00E+00	1.35E-02
		Be-7	<1.24E-01	0.00E+00	1.24E-01
		K-40	4.96E-01	2.30E-01	3.02E-01
467628	2/5/2018 - 2/12/2018	I-131	<2.22E-02	0.00E+00	2.22E-02
		Cs-134	<1.61E-02	0.00E+00	1.61E-02
		Cs-137	<1.98E-02	0.00E+00	1.98E-02
		Be-7	<1.26E-01	0.00E+00	1.26E-01
		K-40	5.39E-01	1.89E-01	1.63E-01
468420	2/12/2018 - 2/19/2018	I-131	<2.30E-02	0.00E+00	2.30E-02
		Cs-134	<1.80E-02	0.00E+00	1.80E-02
		Cs-137	<1.77E-02	0.00E+00	1.77E-02
		Be-7	<1.25E-01	0.00E+00	1.25E-01
		K-40	4.33E-01	1.93E-01	2.34E-01
468741	2/19/2018 - 2/26/2018	I-131	<2.22E-02	0.00E+00	2.22E-02
		Cs-134	<1.07E-02	0.00E+00	1.07E-02
		Cs-137	<1.81E-02	0.00E+00	1.81E-02
		Be-7	<1.39E-01	0.00E+00	1.39E-01
		K-40	5.09E-01	2.22E-01	2.73E-01
469553	2/26/2018 - 3/5/2018	I-131	<2.43E-02	0.00E+00	2.43E-02
		Cs-134	<1.52E-02	0.00E+00	1.52E-02
		Cs-137	<1.79E-02	0.00E+00	1.79E-02
		Be-7	<1.13E-01	0.00E+00	1.13E-01
		K-40	5.61E-01	2.00E-01	1.92E-01
470575	3/5/2018 - 3/12/2018	I-131	<2.17E-02	0.00E+00	2.17E-02
		Cs-134	<1.43E-02	0.00E+00	1.43E-02
		Cs-137	<1.73E-02	0.00E+00	1.73E-02
		Be-7	<1.11E-01	0.00E+00	1.11E-01
		K-40	5.99E-01	1.81E-01	3.46E-02
471142	3/12/2018 - 3/19/2018	I-131	<2.30E-02	0.00E+00	2.30E-02
		Cs-134	<2.05E-02	0.00E+00	2.05E-02
		Cs-137	<1.55E-02	0.00E+00	1.55E-02
		Be-7	<1.17E-01	0.00E+00	1.17E-01
		K-40	4.39E-01	1.77E-01	1.84E-01
471697	3/19/2018 - 3/26/2018	I-131	<2.11E-02	0.00E+00	2.11E-02



# HARRIS Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: AIR RADIOIODINE Concentration (Activity): pCi/m3

Sample Point 2 [ INDICATOR - NNE @ 1.4 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
471697	3/19/2018 - 3/26/2018	Cs-134	<1.29E-02	0.00E+00	1.29E-02
		Cs-137	<1.93E-02	0.00E+00	1.93E-02
		Be-7	<1.35E-01	0.00E+00	1.35E-01
		K-40	4.33E-01	2.18E-01	2.89E-01
472484	3/26/2018 - 4/2/2018	I-131	<1.91E-02	0.00E+00	1.91E-02
		Cs-134	<1.72E-02	0.00E+00	1.72E-02
		Cs-137	<1.57E-02	0.00E+00	1.57E-02
		Be-7	<1.11E-01	0.00E+00	1.11E-01
		K-40	6.50E-01	2.14E-01	1.99E-01
472959	4/2/2018 - 4/9/2018	I-131	<2.27E-02	0.00E+00	2.27E-02
		Cs-134	<2.01E-02	0.00E+00	2.01E-02
		Cs-137	<1.94E-02	0.00E+00	1.94E-02
		Be-7	<1.34E-01	0.00E+00	1.34E-01
		K-40	5.57E-01	2.28E-01	2.75E-01
473250	4/9/2018 - 4/16/2018	I-131	<2.13E-02	0.00E+00	2.13E-02
		Cs-134	<1.88E-02	0.00E+00	1.88E-02
		Cs-137	<1.75E-02	0.00E+00	1.75E-02
		Be-7	<1.21E-01	0.00E+00	1.21E-01
		K-40	3.59E-01	1.79E-01	2.23E-01
473615	4/16/2018 - 4/23/2018	I-131	<2.42E-02	0.00E+00	2.42E-02
		Cs-134	<1.79E-02	0.00E+00	1.79E-02
		Cs-137	<1.79E-02	0.00E+00	1.79E-02
		Be-7	<1.16E-01	0.00E+00	1.16E-01
		K-40	5.55E-01	1.88E-01	1.43E-01
474135	4/23/2018 - 4/30/2018	I-131	<2.14E-02	0.00E+00	2.14E-02
		Cs-134	<1.57E-02	0.00E+00	1.57E-02
		Cs-137	<1.66E-02	0.00E+00	1.66E-02
		Be-7	<9.75E-02	0.00E+00	9.75E-02
		K-40	4.41E-01	1.97E-01	2.38E-01
474513	4/30/2018 - 5/7/2018	I-131	<2.45E-02	0.00E+00	2.45E-02
		Cs-134	<2.07E-02	0.00E+00	2.07E-02
		Cs-137	<1.99E-02	0.00E+00	1.99E-02
		Be-7	<1.29E-01	0.00E+00	1.29E-01
		K-40	5.50E-01	1.93E-01	1.70E-01
474872	5/7/2018 - 5/14/2018	I-131	<2.27E-02	0.00E+00	2.27E-02
		Cs-134	<1.31E-02	0.00E+00	1.31E-02
		Cs-137	<1.86E-02	0.00E+00	1.86E-02
		Be-7	<1.24E-01	0.00E+00	1.24E-01
		K-40	4.36E-01	1.95E-01	2.36E-01
475196	5/14/2018 - 5/21/2018	I-131	<2.42E-02	0.00E+00	2.42E-02
		Cs-134	<1.72E-02	0.00E+00	1.72E-02
		Cs-137	<1.52E-02	0.00E+00	1.52E-02
		Be-7	<1.21E-01	0.00E+00	1.21E-01
		K-40	4.73E-01	1.77E-01	1.51E-01
475521	5/21/2018 - 5/29/2018	I-131	<1.97E-02	0.00E+00	1.97E-02
		Cs-134	<1.38E-02	0.00E+00	1.38E-02
		Cs-137	<1.50E-02	0.00E+00	1.50E-02
		Be-7	<1.03E-01	0.00E+00	1.03E-01
		K-40	4.51E-01	1.68E-01	1.66E-01



# HARRIS Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: AIR RADIOIODINE Concentration (Activity): pCi/m3

Sample Point 2 [ INDICATOR - NNE @ 1.4 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
476346	5/29/2018 - 6/4/2018	I-131	<2.81E-02	0.00E+00	2.81E-02
		Cs-134	<2.17E-02	0.00E+00	2.17E-02
		Cs-137	<2.14E-02	0.00E+00	2.14E-02
		Be-7	<1.65E-01	0.00E+00	1.65E-01
		K-40	6.45E-01	2.32E-01	2.24E-01
477358	6/4/2018 - 6/11/2018	I-131	<2.18E-02	0.00E+00	2.18E-02
		Cs-134	<1.64E-02	0.00E+00	1.64E-02
		Cs-137	<1.57E-02	0.00E+00	1.57E-02
		Be-7	<1.13E-01	0.00E+00	1.13E-01
		K-40	5.55E-01	2.05E-01	2.15E-01
478088	6/11/2018 - 6/18/2018	I-131	<2.66E-02	0.00E+00	2.66E-02
		Cs-134	<2.11E-02	0.00E+00	2.11E-02
		Cs-137	<1.89E-02	0.00E+00	1.89E-02
		Be-7	<1.27E-01	0.00E+00	1.27E-01
		K-40	5.56E-01	1.88E-01	1.42E-01
478408	6/18/2018 - 6/25/2018	I-131	<2.16E-02	0.00E+00	2.16E-02
		Cs-134	<1.78E-02	0.00E+00	1.78E-02
		Cs-137	<1.77E-02	0.00E+00	1.77E-02
		Be-7	<1.44E-01	0.00E+00	1.44E-01
		K-40	5.88E-01	2.23E-01	2.53E-01
478768	6/25/2018 - 7/2/2018	I-131	<2.07E-02	0.00E+00	2.07E-02
		Cs-134	<1.81E-02	0.00E+00	1.81E-02
		Cs-137	<1.60E-02	0.00E+00	1.60E-02
		Be-7	<1.19E-01	0.00E+00	1.19E-01
		K-40	<3.80E-01	0.00E+00	3.80E-01
479040	7/2/2018 - 7/9/2018	I-131	<1.73E-02	0.00E+00	1.73E-02
		Cs-134	<1.63E-02	0.00E+00	1.63E-02
		Cs-137	<1.87E-02	0.00E+00	1.87E-02
		Be-7	<1.02E-01	0.00E+00	1.02E-01
		K-40	5.91E-01	1.87E-01	1.26E-01
479861	7/9/2018 - 7/16/2018	I-131	<2.30E-02	0.00E+00	2.30E-02
		Cs-134	<1.48E-02	0.00E+00	1.48E-02
		Cs-137	<1.88E-02	0.00E+00	1.88E-02
		Be-7	<1.29E-01	0.00E+00	1.29E-01
		K-40	<4.04E-01	0.00E+00	4.04E-01
480231	7/16/2018 - 7/23/2018	I-131	<1.67E-02	0.00E+00	1.67E-02
		Cs-134	<1.34E-02	0.00E+00	1.34E-02
		Cs-137	<1.99E-02	0.00E+00	1.99E-02
		Be-7	<1.11E-01	0.00E+00	1.11E-01
		K-40	3.94E-01	1.91E-01	2.40E-01
481058	7/23/2018 - 7/30/2018	I-131	<2.56E-02	0.00E+00	2.56E-02
		Cs-134	<2.12E-02	0.00E+00	2.12E-02
		Cs-137	<1.52E-02	0.00E+00	1.52E-02
		Be-7	<1.22E-01	0.00E+00	1.22E-01
		K-40	3.73E-01	1.95E-01	2.54E-01
481502	7/30/2018 - 8/6/2018	I-131	<2.44E-02	0.00E+00	2.44E-02
		Cs-134	<1.48E-02	0.00E+00	1.48E-02
		Cs-137	<1.49E-02	0.00E+00	1.49E-02
		Be-7	<1.34E-01	0.00E+00	1.34E-01
		K-40	6.19E-01	2.05E-01	1.86E-01



# HARRIS Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: AIR RADIOIODINE Concentration (Activity): pCi/m3

Sample Point 2 [ INDICATOR - NNE @ 1.4 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
481935	8/6/2018 - 8/13/2018	I-131	<2.30E-02	0.00E+00	2.30E-02
		Cs-134	<1.71E-02	0.00E+00	1.71E-02
		Cs-137	<1.84E-02	0.00E+00	1.84E-02
		Be-7	<1.35E-01	0.00E+00	1.35E-01
		K-40	3.87E-01	1.69E-01	1.76E-01
482467	8/13/2018 - 8/20/2018	I-131	<1.44E-02	0.00E+00	1.44E-02
		Cs-134	<8.53E-03	0.00E+00	8.53E-03
		Cs-137	<1.54E-02	0.00E+00	1.54E-02
		Be-7	<1.20E-01	0.00E+00	1.20E-01
		K-40	3.60E-01	1.56E-01	1.63E-01
482792	8/20/2018 - 8/27/2018	I-131	<2.03E-02	0.00E+00	2.03E-02
		Cs-134	<1.55E-02	0.00E+00	1.55E-02
		Cs-137	<1.33E-02	0.00E+00	1.33E-02
		Be-7	<9.72E-02	0.00E+00	9.72E-02
		K-40	3.78E-01	1.77E-01	2.11E-01
483417	8/27/2018 - 9/4/2018	I-131	<1.94E-02	0.00E+00	1.94E-02
		Cs-134	<1.30E-02	0.00E+00	1.30E-02
		Cs-137	<9.65E-03	0.00E+00	9.65E-03
		Be-7	<1.42E-01	0.00E+00	1.42E-01
		K-40	3.21E-01	1.68E-01	2.21E-01
483992	9/4/2018 - 9/10/2018	I-131	<2.29E-02	0.00E+00	2.29E-02
		Cs-134	<1.92E-02	0.00E+00	1.92E-02
		Cs-137	<1.92E-02	0.00E+00	1.92E-02
		Be-7	<1.51E-01	0.00E+00	1.51E-01
		K-40	4.77E-01	2.19E-01	2.58E-01
484162	9/10/2018 - 9/17/2018	I-131	<3.32E-02	0.00E+00	3.32E-02
		Cs-134	<1.91E-02	0.00E+00	1.91E-02
		Cs-137	<2.05E-02	0.00E+00	2.05E-02
		Be-7	<1.34E-01	0.00E+00	1.34E-01
		K-40	3.30E-01	1.49E-01	1.50E-01
485013	9/17/2018 - 9/24/2018	I-131	<2.41E-02	0.00E+00	2.41E-02
		Cs-134	<1.89E-02	0.00E+00	1.89E-02
		Cs-137	<1.61E-02	0.00E+00	1.61E-02
		Be-7	<1.35E-01	0.00E+00	1.35E-01
		K-40	4.68E-01	1.74E-01	1.45E-01
485243	9/24/2018 - 10/1/2018	I-131	<2.86E-02	0.00E+00	2.86E-02
		Cs-134	<1.47E-02	0.00E+00	1.47E-02
		Cs-137	<1.54E-02	0.00E+00	1.54E-02
		Be-7	<1.12E-01	0.00E+00	1.12E-01
		K-40	5.21E-01	1.87E-01	1.75E-01
486137	10/1/2018 - 10/8/2018	I-131	<2.26E-02	0.00E+00	2.26E-02
		Cs-134	<1.66E-02	0.00E+00	1.66E-02
		Cs-137	<1.60E-02	0.00E+00	1.60E-02
		Be-7	<1.09E-01	0.00E+00	1.09E-01
		K-40	3.51E-01	1.80E-01	2.22E-01
486683	10/8/2018 - 10/15/2018	I-131	<2.34E-02	0.00E+00	2.34E-02
		Cs-134	<1.42E-02	0.00E+00	1.42E-02
		Cs-137	<1.34E-02	0.00E+00	1.34E-02
		Be-7	<1.13E-01	0.00E+00	1.13E-01
		K-40	4.31E-01	1.64E-01	1.37E-01



# HARRIS Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: AIR RADIOIODINE Concentration (Activity): pCi/m3

Sample Point 2 [ INDICATOR - NNE @ 1.4 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
487722	10/15/2018 - 10/22/2018	I-131	<2.27E-02	0.00E+00	2.27E-02
		Cs-134	<1.82E-02	0.00E+00	1.82E-02
		Cs-137	<2.14E-02	0.00E+00	2.14E-02
		Be-7	<1.17E-01	0.00E+00	1.17E-01
		K-40	3.92E-01	1.68E-01	1.73E-01
487969	10/22/2018 - 10/29/2018	I-131	<2.22E-02	0.00E+00	2.22E-02
		Cs-134	<1.55E-02	0.00E+00	1.55E-02
		Cs-137	<1.69E-02	0.00E+00	1.69E-02
		Be-7	<1.41E-01	0.00E+00	1.41E-01
		K-40	4.71E-01	1.70E-01	1.38E-01
488454	10/29/2018 - 11/5/2018	I-131	<2.28E-02	0.00E+00	2.28E-02
		Cs-134	<1.87E-02	0.00E+00	1.87E-02
		Cs-137	<1.48E-02	0.00E+00	1.48E-02
		Be-7	<1.21E-01	0.00E+00	1.21E-01
		K-40	5.18E-01	2.07E-01	2.28E-01
488830	11/5/2018 - 11/12/2018	I-131	<2.06E-02	0.00E+00	2.06E-02
		Cs-134	<1.85E-02	0.00E+00	1.85E-02
		Cs-137	<1.82E-02	0.00E+00	1.82E-02
		Be-7	<1.11E-01	0.00E+00	1.11E-01
		K-40	4.84E-01	1.84E-01	1.80E-01
489134	11/12/2018 - 11/19/2018	I-131	<2.33E-02	0.00E+00	2.33E-02
		Cs-134	<1.81E-02	0.00E+00	1.81E-02
		Cs-137	<1.84E-02	0.00E+00	1.84E-02
		Be-7	<1.09E-01	0.00E+00	1.09E-01
		K-40	3.58E-01	1.82E-01	2.28E-01
489719	11/19/2018 - 11/26/2018	I-131	<2.25E-02	0.00E+00	2.25E-02
		Cs-134	<1.69E-02	0.00E+00	1.69E-02
		Cs-137	<1.60E-02	0.00E+00	1.60E-02
		Be-7	<1.10E-01	0.00E+00	1.10E-01
		K-40	3.54E-01	1.58E-01	1.67E-01
490135	11/26/2018 - 12/3/2018	I-131	<2.35E-02	0.00E+00	2.35E-02
		Cs-134	<1.63E-02	0.00E+00	1.63E-02
		Cs-137	<1.68E-02	0.00E+00	1.68E-02
		Be-7	<1.23E-01	0.00E+00	1.23E-01
		K-40	5.85E-01	2.05E-01	1.96E-01
490781	12/3/2018 - 12/11/2018	I-131	<1.92E-02	0.00E+00	1.92E-02
		Cs-134	<1.26E-02	0.00E+00	1.26E-02
		Cs-137	<1.34E-02	0.00E+00	1.34E-02
		Be-7	<1.24E-01	0.00E+00	1.24E-01
		K-40	3.87E-01	1.64E-01	1.84E-01
491161	12/11/2018 - 12/18/2018	I-131	<2.15E-02	0.00E+00	2.15E-02
		Cs-134	<2.02E-02	0.00E+00	2.02E-02
		Cs-137	<1.52E-02	0.00E+00	1.52E-02
		Be-7	<9.81E-02	0.00E+00	9.81E-02
		K-40	3.49E-01	1.66E-01	1.92E-01
491465	12/18/2018 - 12/26/2018	I-131	<3.04E-02	0.00E+00	3.04E-02
		Cs-134	<1.07E-02	0.00E+00	1.07E-02
		Cs-137	<1.26E-02	0.00E+00	1.26E-02
		Be-7	<1.12E-01	0.00E+00	1.12E-01
		K-40	3.58E-01	1.87E-01	2.53E-01



# HARRIS Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: AIR RADIOIODINE Concentration (Activity): pCi/m3

Sample Point 2 [ INDICATOR - NNE @ 1.4 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
491730	12/26/2018 - 12/31/2018	I-131	<4.66E-02	0.00E+00	4.66E-02
		Cs-134	<2.13E-02	0.00E+00	2.13E-02
		Cs-137	<2.64E-02	0.00E+00	2.64E-02
		Be-7	<1.95E-01	0.00E+00	1.95E-01
		K-40	<5.74E-01	0.00E+00	5.74E-01

Sample Point 4 [ INDICATOR - NNE @ 3.1 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
465976	1/2/2018 - 1/8/2018	I-131	<3.24E-02	0.00E+00	3.24E-02
		Cs-134	<1.75E-02	0.00E+00	1.75E-02
		Cs-137	<1.77E-02	0.00E+00	1.77E-02
		Be-7	<1.85E-01	0.00E+00	1.85E-01
		K-40	4.53E-01	1.86E-01	1.74E-01

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
466176	1/8/2018 - 1/15/2018	I-131	<2.67E-02	0.00E+00	2.67E-02
		Cs-134	<1.68E-02	0.00E+00	1.68E-02
		Cs-137	<1.77E-02	0.00E+00	1.77E-02
		Be-7	<1.31E-01	0.00E+00	1.31E-01
		K-40	4.30E-01	1.71E-01	1.59E-01

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
466374	1/15/2018 - 1/22/2018	I-131	<1.99E-02	0.00E+00	1.99E-02
		Cs-134	<1.82E-02	0.00E+00	1.82E-02
		Cs-137	<1.39E-02	0.00E+00	1.39E-02
		Be-7	<1.35E-01	0.00E+00	1.35E-01
		K-40	4.86E-01	2.05E-01	2.44E-01

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
466962	1/22/2018 - 1/29/2018	I-131	<1.83E-02	0.00E+00	1.83E-02
		Cs-134	<2.20E-02	0.00E+00	2.20E-02
		Cs-137	<2.01E-02	0.00E+00	2.01E-02
		Be-7	<1.03E-01	0.00E+00	1.03E-01
		K-40	6.67E-01	2.07E-01	1.54E-01

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
467321	1/29/2018 - 2/5/2018	I-131	<2.49E-02	0.00E+00	2.49E-02
		Cs-134	<1.84E-02	0.00E+00	1.84E-02
		Cs-137	<1.86E-02	0.00E+00	1.86E-02
		Be-7	<1.27E-01	0.00E+00	1.27E-01
		K-40	3.49E-01	1.82E-01	2.35E-01

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
467630	2/5/2018 - 2/12/2018	I-131	<2.19E-02	0.00E+00	2.19E-02
		Cs-134	<1.68E-02	0.00E+00	1.68E-02
		Cs-137	<1.24E-02	0.00E+00	1.24E-02
		Be-7	<1.17E-01	0.00E+00	1.17E-01
		K-40	4.06E-01	1.81E-01	2.05E-01

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
468422	2/12/2018 - 2/19/2018	I-131	<2.79E-02	0.00E+00	2.79E-02
		Cs-134	<1.52E-02	0.00E+00	1.52E-02
		Cs-137	<1.74E-02	0.00E+00	1.74E-02
		Be-7	<1.21E-01	0.00E+00	1.21E-01
		K-40	4.39E-01	1.88E-01	2.13E-01

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
468743	2/19/2018 - 2/26/2018	I-131	<2.59E-02	0.00E+00	2.59E-02
		Cs-134	<1.45E-02	0.00E+00	1.45E-02
		Cs-137	<1.76E-02	0.00E+00	1.76E-02
		Be-7	<1.36E-01	0.00E+00	1.36E-01
		K-40	6.18E-01	2.09E-01	1.94E-01

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
469555	2/26/2018 - 3/5/2018	I-131	<2.43E-02	0.00E+00	2.43E-02
		Cs-134	<1.43E-02	0.00E+00	1.43E-02
		Cs-137	<1.91E-02	0.00E+00	1.91E-02



# HARRIS Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: AIR RADIOIODINE Concentration (Activity): pCi/m3

Sample Point 4 [ INDICATOR - NNE @ 3.1 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
469555	2/26/2018 - 3/5/2018	Be-7	<1.25E-01	0.00E+00	1.25E-01
		K-40	<3.70E-01	0.00E+00	3.70E-01
470577	3/5/2018 - 3/12/2018	I-131	<2.40E-02	0.00E+00	2.40E-02
		Cs-134	<1.66E-02	0.00E+00	1.66E-02
		Cs-137	<1.91E-02	0.00E+00	1.91E-02
		Be-7	<9.79E-02	0.00E+00	9.79E-02
		K-40	4.18E-01	1.90E-01	2.27E-01
471144	3/12/2018 - 3/19/2018	I-131	<2.32E-02	0.00E+00	2.32E-02
		Cs-134	<1.68E-02	0.00E+00	1.68E-02
		Cs-137	<1.32E-02	0.00E+00	1.32E-02
		Be-7	<1.07E-01	0.00E+00	1.07E-01
		K-40	3.46E-01	1.77E-01	2.24E-01
471699	3/19/2018 - 3/26/2018	I-131	<2.12E-02	0.00E+00	2.12E-02
		Cs-134	<1.74E-02	0.00E+00	1.74E-02
		Cs-137	<1.87E-02	0.00E+00	1.87E-02
		Be-7	<1.09E-01	0.00E+00	1.09E-01
		K-40	6.70E-01	1.97E-01	3.63E-02
472486	3/26/2018 - 4/2/2018	I-131	<2.47E-02	0.00E+00	2.47E-02
		Cs-134	<1.79E-02	0.00E+00	1.79E-02
		Cs-137	<1.58E-02	0.00E+00	1.58E-02
		Be-7	<1.18E-01	0.00E+00	1.18E-01
		K-40	4.77E-01	1.80E-01	1.70E-01
472961	4/2/2018 - 4/9/2018	I-131	<2.43E-02	0.00E+00	2.43E-02
		Cs-134	<1.94E-02	0.00E+00	1.94E-02
		Cs-137	<1.60E-02	0.00E+00	1.60E-02
		Be-7	<1.19E-01	0.00E+00	1.19E-01
		K-40	3.64E-01	1.77E-01	2.12E-01
473252	4/9/2018 - 4/16/2018	I-131	<2.24E-02	0.00E+00	2.24E-02
		Cs-134	<1.75E-02	0.00E+00	1.75E-02
		Cs-137	<1.65E-02	0.00E+00	1.65E-02
		Be-7	<1.31E-01	0.00E+00	1.31E-01
		K-40	4.41E-01	2.01E-01	2.49E-01
473617	4/16/2018 - 4/23/2018	I-131	<2.37E-02	0.00E+00	2.37E-02
		Cs-134	<1.49E-02	0.00E+00	1.49E-02
		Cs-137	<1.89E-02	0.00E+00	1.89E-02
		Be-7	<1.17E-01	0.00E+00	1.17E-01
		K-40	7.55E-01	2.09E-01	3.59E-02
474137	4/23/2018 - 4/30/2018	I-131	<2.52E-02	0.00E+00	2.52E-02
		Cs-134	<1.40E-02	0.00E+00	1.40E-02
		Cs-137	<1.65E-02	0.00E+00	1.65E-02
		Be-7	<1.23E-01	0.00E+00	1.23E-01
		K-40	3.96E-01	1.82E-01	2.17E-01
474515	4/30/2018 - 5/7/2018	I-131	<2.48E-02	0.00E+00	2.48E-02
		Cs-134	<1.62E-02	0.00E+00	1.62E-02
		Cs-137	<1.77E-02	0.00E+00	1.77E-02
		Be-7	<1.14E-01	0.00E+00	1.14E-01
		K-40	4.44E-01	1.56E-01	3.54E-02
474874	5/7/2018 - 5/14/2018	I-131	<2.46E-02	0.00E+00	2.46E-02





# HARRIS Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: AIR RADIOIODINE Concentration (Activity): pCi/m3

Sample Point 4 [ INDICATOR - NNE @ 3.1 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
474874	5/7/2018 - 5/14/2018	Cs-134	<1.87E-02	0.00E+00	1.87E-02
		Cs-137	<1.65E-02	0.00E+00	1.65E-02
		Be-7	<9.60E-02	0.00E+00	9.60E-02
		K-40	4.53E-01	1.64E-01	1.21E-01
475198	5/14/2018 - 5/21/2018	I-131	<2.03E-02	0.00E+00	2.03E-02
		Cs-134	<1.55E-02	0.00E+00	1.55E-02
		Cs-137	<1.63E-02	0.00E+00	1.63E-02
		Be-7	<1.20E-01	0.00E+00	1.20E-01
		K-40	4.18E-01	1.66E-01	1.48E-01
475523	5/21/2018 - 5/29/2018	I-131	<2.11E-02	0.00E+00	2.11E-02
		Cs-134	<1.56E-02	0.00E+00	1.56E-02
		Cs-137	<1.38E-02	0.00E+00	1.38E-02
		Be-7	<1.22E-01	0.00E+00	1.22E-01
		K-40	3.12E-01	1.72E-01	2.33E-01
476348	5/29/2018 - 6/4/2018	I-131	<2.08E-02	0.00E+00	2.08E-02
		Cs-134	<1.77E-02	0.00E+00	1.77E-02
		Cs-137	<2.33E-02	0.00E+00	2.33E-02
		Be-7	<1.56E-01	0.00E+00	1.56E-01
		K-40	4.30E-01	2.23E-01	2.90E-01
477360	6/4/2018 - 6/11/2018	I-131	<2.02E-02	0.00E+00	2.03E-02
		Cs-134	<1.41E-02	0.00E+00	1.41E-02
		Cs-137	<1.67E-02	0.00E+00	1.67E-02
		Be-7	<1.13E-01	0.00E+00	1.13E-01
		K-40	6.18E-01	2.04E-01	1.82E-01
478090	6/11/2018 - 6/18/2018	I-131	<2.51E-02	0.00E+00	2.51E-02
		Cs-134	<1.86E-02	0.00E+00	1.86E-02
		Cs-137	<1.79E-02	0.00E+00	1.79E-02
		Be-7	<1.47E-01	0.00E+00	1.47E-01
		K-40	4.88E-01	1.82E-01	1.63E-01
478410	6/18/2018 - 6/25/2018	I-131	<2.77E-02	0.00E+00	2.77E-02
		Cs-134	<1.78E-02	0.00E+00	1.78E-02
		Cs-137	<1.57E-02	0.00E+00	1.57E-02
		Be-7	<1.22E-01	0.00E+00	1.22E-01
		K-40	4.05E-01	2.21E-01	3.06E-01
478770	6/25/2018 - 7/2/2018	I-131	<2.14E-02	0.00E+00	2.14E-02
		Cs-134	<1.69E-02	0.00E+00	1.69E-02
		Cs-137	<1.50E-02	0.00E+00	1.50E-02
		Be-7	<1.32E-01	0.00E+00	1.32E-01
		K-40	4.72E-01	1.97E-01	2.22E-01
479042	7/2/2018 - 7/9/2018	I-131	<2.06E-02	0.00E+00	2.06E-02
		Cs-134	<1.74E-02	0.00E+00	1.74E-02
		Cs-137	<1.49E-02	0.00E+00	1.49E-02
		Be-7	<1.35E-01	0.00E+00	1.35E-01
		K-40	3.69E-01	1.58E-01	1.57E-01
479863	7/9/2018 - 7/16/2018	I-131	<2.14E-02	0.00E+00	2.14E-02
		Cs-134	<2.05E-02	0.00E+00	2.05E-02
		Cs-137	<1.80E-02	0.00E+00	1.80E-02
		Be-7	<1.11E-01	0.00E+00	1.11E-01
		K-40	4.19E-01	1.81E-01	1.97E-01



# HARRIS Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: AIR RADIOIODINE Concentration (Activity): pCi/m3

Sample Point 4 [ INDICATOR - NNE @ 3.1 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
480233	7/16/2018 - 7/23/2018	I-131	<1.94E-02	0.00E+00	1.94E-02
		Cs-134	<1.84E-02	0.00E+00	1.84E-02
		Cs-137	<1.85E-02	0.00E+00	1.85E-02
		Be-7	<1.00E-01	0.00E+00	1.00E-01
		K-40	6.59E-01	1.99E-01	1.33E-01
481060	7/23/2018 - 7/30/2018	I-131	<2.49E-02	0.00E+00	2.49E-02
		Cs-134	<1.89E-02	0.00E+00	1.89E-02
		Cs-137	<1.71E-02	0.00E+00	1.71E-02
		Be-7	<1.15E-01	0.00E+00	1.15E-01
		K-40	3.64E-01	1.92E-01	2.51E-01
481504	7/30/2018 - 8/6/2018	I-131	<2.74E-02	0.00E+00	2.74E-02
		Cs-134	<1.70E-02	0.00E+00	1.70E-02
		Cs-137	<1.87E-02	0.00E+00	1.87E-02
		Be-7	<1.24E-01	0.00E+00	1.24E-01
		K-40	<3.93E-01	0.00E+00	3.93E-01
481937	8/6/2018 - 8/13/2018	I-131	<2.10E-02	0.00E+00	2.10E-02
		Cs-134	<1.56E-02	0.00E+00	1.56E-02
		Cs-137	<1.63E-02	0.00E+00	1.63E-02
		Be-7	<1.24E-01	0.00E+00	1.24E-01
		K-40	6.61E-01	2.11E-01	1.75E-01
482469	8/13/2018 - 8/20/2018	I-131	<1.64E-02	0.00E+00	1.64E-02
		Cs-134	<1.56E-02	0.00E+00	1.56E-02
		Cs-137	<1.69E-02	0.00E+00	1.69E-02
		Be-7	<9.12E-02	0.00E+00	9.12E-02
		K-40	2.17E-01	1.49E-01	2.10E-01
482794	8/20/2018 - 8/27/2018	I-131	<1.64E-02	0.00E+00	1.64E-02
		Cs-134	<1.65E-02	0.00E+00	1.65E-02
		Cs-137	<1.42E-02	0.00E+00	1.42E-02
		Be-7	<8.63E-02	0.00E+00	8.63E-02
		K-40	<2.94E-01	0.00E+00	2.94E-01
483419	8/27/2018 - 9/4/2018	I-131	<2.01E-02	0.00E+00	2.01E-02
		Cs-134	<1.59E-02	0.00E+00	1.59E-02
		Cs-137	<1.36E-02	0.00E+00	1.36E-02
		Be-7	<1.02E-01	0.00E+00	1.02E-01
		K-40	4.93E-01	1.78E-01	1.81E-01
483994	9/4/2018 - 9/10/2018	I-131	<2.46E-02	0.00E+00	2.46E-02
		Cs-134	<2.01E-02	0.00E+00	2.01E-02
		Cs-137	<2.21E-02	0.00E+00	2.21E-02
		Be-7	<1.51E-01	0.00E+00	1.51E-01
		K-40	5.24E-01	2.20E-01	2.37E-01
484164	9/10/2018 - 9/17/2018	I-131	<3.19E-02	0.00E+00	3.19E-02
		Cs-134	<1.67E-02	0.00E+00	1.67E-02
		Cs-137	<1.88E-02	0.00E+00	1.88E-02
		Be-7	<1.27E-01	0.00E+00	1.27E-01
		K-40	<3.51E-01	0.00E+00	3.51E-01
485015	9/17/2018 - 9/24/2018	I-131	<2.41E-02	0.00E+00	2.41E-02
		Cs-134	<1.38E-02	0.00E+00	1.38E-02
		Cs-137	<2.09E-02	0.00E+00	2.09E-02
		Be-7	<1.18E-01	0.00E+00	1.18E-01
		K-40	4.75E-01	1.95E-01	2.13E-01



# HARRIS Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: AIR RADIOIODINE Concentration (Activity): pCi/m3

Sample Point 4 [ INDICATOR - NNE @ 3.1 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
485245	9/24/2018 - 10/1/2018	I-131	<3.78E-02	0.00E+00	3.78E-02
		Cs-134	<2.01E-02	0.00E+00	2.01E-02
		Cs-137	<1.76E-02	0.00E+00	1.76E-02
		Be-7	<1.49E-01	0.00E+00	1.49E-01
		K-40	4.11E-01	2.09E-01	2.75E-01
486139	10/1/2018 - 10/8/2018	I-131	<2.03E-02	0.00E+00	2.03E-02
		Cs-134	<1.72E-02	0.00E+00	1.72E-02
		Cs-137	<1.68E-02	0.00E+00	1.68E-02
		Be-7	<1.33E-01	0.00E+00	1.33E-01
		K-40	4.47E-01	1.65E-01	1.30E-01
486685	10/8/2018 - 10/15/2018	I-131	<2.78E-02	0.00E+00	2.78E-02
		Cs-134	<2.09E-02	0.00E+00	2.09E-02
		Cs-137	<1.66E-02	0.00E+00	1.66E-02
		Be-7	<1.28E-01	0.00E+00	1.28E-01
		K-40	4.75E-01	1.97E-01	2.05E-01
487724	10/15/2018 - 10/22/2018	I-131	<2.58E-02	0.00E+00	2.58E-02
		Cs-134	<1.88E-02	0.00E+00	1.88E-02
		Cs-137	<1.60E-02	0.00E+00	1.60E-02
		Be-7	<1.32E-01	0.00E+00	1.32E-01
		K-40	3.88E-01	1.45E-01	3.51E-02
487971	10/22/2018 - 10/29/2018	I-131	<2.24E-02	0.00E+00	2.24E-02
		Cs-134	<1.69E-02	0.00E+00	1.69E-02
		Cs-137	<1.69E-02	0.00E+00	1.69E-02
		Be-7	<1.13E-01	0.00E+00	1.13E-01
		K-40	3.92E-01	1.98E-01	2.59E-01
488456	10/29/2018 - 11/5/2018	I-131	<2.01E-02	0.00E+00	2.01E-02
		Cs-134	<1.79E-02	0.00E+00	1.79E-02
		Cs-137	<1.85E-02	0.00E+00	1.85E-02
		Be-7	<1.04E-01	0.00E+00	1.04E-01
		K-40	4.15E-01	1.86E-01	2.13E-01
488832	11/5/2018 - 11/12/2018	I-131	<2.25E-02	0.00E+00	2.25E-02
		Cs-134	<2.03E-02	0.00E+00	2.03E-02
		Cs-137	<1.47E-02	0.00E+00	1.47E-02
		Be-7	<1.08E-01	0.00E+00	1.08E-01
		K-40	5.60E-01	1.86E-01	1.38E-01
489136	11/12/2018 - 11/19/2018	I-131	<2.18E-02	0.00E+00	2.18E-02
		Cs-134	<1.74E-02	0.00E+00	1.74E-02
		Cs-137	<1.84E-02	0.00E+00	1.84E-02
		Be-7	<1.18E-01	0.00E+00	1.18E-01
		K-40	4.97E-01	1.72E-01	1.16E-01
489721	11/19/2018 - 11/26/2018	I-131	<2.43E-02	0.00E+00	2.43E-02
		Cs-134	<1.95E-02	0.00E+00	1.95E-02
		Cs-137	<1.80E-02	0.00E+00	1.80E-02
		Be-7	<1.05E-01	0.00E+00	1.05E-01
		K-40	4.44E-01	1.95E-01	2.31E-01
490137	11/26/2018 - 12/3/2018	I-131	<2.16E-02	0.00E+00	2.16E-02
		Cs-134	<1.90E-02	0.00E+00	1.90E-02
		Cs-137	<1.95E-02	0.00E+00	1.95E-02
		Be-7	<1.28E-01	0.00E+00	1.28E-01
		K-40	5.00E-01	1.87E-01	1.75E-01



# HARRIS Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: AIR RADIOIODINE Concentration (Activity): pCi/m3

Sample Point 4 [ INDICATOR - NNE @ 3.1 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
490783	12/3/2018 - 12/11/2018	I-131	<2.11E-02	0.00E+00	2.11E-02
		Cs-134	<1.52E-02	0.00E+00	1.52E-02
		Cs-137	<1.92E-02	0.00E+00	1.92E-02
		Be-7	<1.05E-01	0.00E+00	1.05E-01
		K-40	3.62E-01	1.86E-01	2.49E-01
491163	12/11/2018 - 12/18/2018	I-131	<2.07E-02	0.00E+00	2.07E-02
		Cs-134	<1.64E-02	0.00E+00	1.64E-02
		Cs-137	<1.27E-02	0.00E+00	1.27E-02
		Be-7	<9.11E-02	0.00E+00	9.11E-02
		K-40	2.85E-01	1.33E-01	1.18E-01
491467	12/18/2018 - 12/26/2018	I-131	<3.27E-02	0.00E+00	3.27E-02
		Cs-134	<1.42E-02	0.00E+00	1.42E-02
		Cs-137	<1.35E-02	0.00E+00	1.35E-02
		Be-7	<1.09E-01	0.00E+00	1.09E-01
		K-40	<2.98E-01	0.00E+00	2.98E-01
491732	12/26/2018 - 12/31/2018	I-131	<4.85E-02	0.00E+00	4.85E-02
		Cs-134	<2.94E-02	0.00E+00	2.94E-02
		Cs-137	<2.57E-02	0.00E+00	2.57E-02
		Be-7	<1.76E-01	0.00E+00	1.76E-01
		K-40	<5.81E-01	0.00E+00	5.81E-01

Sample Point 5 [ CONTROL - WNW @ 12 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
465978	1/2/2018 - 1/8/2018	I-131	<2.59E-02	0.00E+00	2.59E-02
		Cs-134	<1.83E-02	0.00E+00	1.83E-02
		Cs-137	<2.00E-02	0.00E+00	2.00E-02
		Be-7	<1.34E-01	0.00E+00	1.34E-01
		K-40	4.39E-01	2.00E-01	2.29E-01
466178	1/8/2018 - 1/15/2018	I-131	<2.36E-02	0.00E+00	2.36E-02
		Cs-134	<1.95E-02	0.00E+00	1.95E-02
		Cs-137	<1.99E-02	0.00E+00	1.99E-02
		Be-7	<1.44E-01	0.00E+00	1.44E-01
		K-40	5.19E-01	1.92E-01	1.85E-01
466376	1/15/2018 - 1/22/2018	I-131	<2.35E-02	0.00E+00	2.35E-02
		Cs-134	<1.92E-02	0.00E+00	1.92E-02
		Cs-137	<1.87E-02	0.00E+00	1.87E-02
		Be-7	1.64E-03	7.20E-02	1.33E-01
		K-40	3.80E-01	1.61E-01	1.59E-01
466964	1/22/2018 - 1/29/2018	I-131	<2.16E-02	0.00E+00	2.16E-02
		Cs-134	<1.70E-02	0.00E+00	1.70E-02
		Cs-137	<1.51E-02	0.00E+00	1.51E-02
		Be-7	<1.20E-01	0.00E+00	1.20E-01
		K-40	<3.90E-01	0.00E+00	3.90E-01
467323	1/29/2018 - 2/5/2018	I-131	<2.71E-02	0.00E+00	2.71E-02
		Cs-134	<1.58E-02	0.00E+00	1.58E-02
		Cs-137	<1.72E-02	0.00E+00	1.72E-02
		Be-7	<1.21E-01	0.00E+00	1.21E-01
		K-40	4.44E-01	1.66E-01	1.37E-01
467632	2/5/2018 - 2/12/2018	I-131	<2.12E-02	0.00E+00	2.12E-02
		Cs-134	<1.68E-02	0.00E+00	1.68E-02
		Cs-137	<1.85E-02	0.00E+00	1.85E-02



# HARRIS Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: AIR RADIOIODINE Concentration (Activity): pCi/m3

Sample Point 5 [ CONTROL - WNW @ 12 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
467632	2/5/2018 - 2/12/2018	Be-7	<1.29E-01	0.00E+00	1.29E-01
		K-40	4.27E-01	1.65E-01	1.38E-01
468424	2/12/2018 - 2/19/2018	I-131	<2.97E-02	0.00E+00	2.97E-02
		Cs-134	<1.69E-02	0.00E+00	1.69E-02
		Cs-137	<1.70E-02	0.00E+00	1.70E-02
		Be-7	<1.08E-01	0.00E+00	1.08E-01
		K-40	5.12E-01	1.65E-01	3.38E-02
468745	2/19/2018 - 2/26/2018	I-131	<2.01E-02	0.00E+00	2.01E-02
		Cs-134	<1.48E-02	0.00E+00	1.48E-02
		Cs-137	<1.84E-02	0.00E+00	1.84E-02
		Be-7	<1.38E-01	0.00E+00	1.38E-01
		K-40	6.21E-01	1.88E-01	3.58E-02
469557	2/26/2018 - 3/5/2018	I-131	<2.36E-02	0.00E+00	2.36E-02
		Cs-134	<1.89E-02	0.00E+00	1.89E-02
		Cs-137	<1.66E-02	0.00E+00	1.66E-02
		Be-7	<1.17E-01	0.00E+00	1.17E-01
		K-40	4.66E-01	2.01E-01	2.39E-01
470579	3/5/2018 - 3/12/2018	I-131	<1.72E-02	0.00E+00	1.72E-02
		Cs-134	<1.90E-02	0.00E+00	1.90E-02
		Cs-137	<1.72E-02	0.00E+00	1.72E-02
		Be-7	<1.07E-01	0.00E+00	1.07E-01
		K-40	3.49E-01	2.15E-01	3.08E-01
471146	3/12/2018 - 3/19/2018	I-131	<2.66E-02	0.00E+00	2.66E-02
		Cs-134	<1.42E-02	0.00E+00	1.42E-02
		Cs-137	<1.72E-02	0.00E+00	1.72E-02
		Be-7	<1.33E-01	0.00E+00	1.33E-01
		K-40	4.60E-01	1.87E-01	2.02E-01
471701	3/19/2018 - 3/26/2018	I-131	<2.29E-02	0.00E+00	2.29E-02
		Cs-134	<1.77E-02	0.00E+00	1.77E-02
		Cs-137	<1.62E-02	0.00E+00	1.62E-02
		Be-7	<1.13E-01	0.00E+00	1.13E-01
		K-40	4.98E-01	1.88E-01	1.80E-01
472488	3/26/2018 - 4/2/2018	I-131	<2.32E-02	0.00E+00	2.32E-02
		Cs-134	<1.65E-02	0.00E+00	1.65E-02
		Cs-137	<1.14E-02	0.00E+00	1.14E-02
		Be-7	<1.23E-01	0.00E+00	1.23E-01
		K-40	5.83E-01	1.89E-01	1.37E-01
472963	4/2/2018 - 4/9/2018	I-131	<2.03E-02	0.00E+00	2.03E-02
		Cs-134	<1.68E-02	0.00E+00	1.68E-02
		Cs-137	<1.81E-02	0.00E+00	1.81E-02
		Be-7	<1.20E-01	0.00E+00	1.20E-01
		K-40	2.90E-01	1.65E-01	2.13E-01
473254	4/9/2018 - 4/16/2018	I-131	<1.98E-02	0.00E+00	1.98E-02
		Cs-134	<1.78E-02	0.00E+00	1.78E-02
		Cs-137	<1.90E-02	0.00E+00	1.90E-02
		Be-7	<1.28E-01	0.00E+00	1.28E-01
		K-40	5.01E-01	2.44E-01	3.31E-01
473619	4/16/2018 - 4/23/2018	I-131	<2.62E-02	0.00E+00	2.62E-02



# HARRIS Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: AIR RADIOIODINE Concentration (Activity): pCi/m3

Sample Point 5 [ CONTROL - WNW @ 12 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
473619	4/16/2018 - 4/23/2018	Cs-134	<1.53E-02	0.00E+00	1.53E-02
		Cs-137	<1.94E-02	0.00E+00	1.94E-02
		Be-7	<1.40E-01	0.00E+00	1.40E-01
		K-40	4.26E-01	1.52E-01	3.50E-02
474139	4/23/2018 - 4/30/2018	I-131	<2.33E-02	0.00E+00	2.33E-02
		Cs-134	<1.78E-02	0.00E+00	1.78E-02
		Cs-137	<2.02E-02	0.00E+00	2.02E-02
		Be-7	<1.09E-01	0.00E+00	1.09E-01
		K-40	3.67E-01	1.53E-01	1.39E-01
474517	4/30/2018 - 5/7/2018	I-131	<2.22E-02	0.00E+00	2.22E-02
		Cs-134	<1.61E-02	0.00E+00	1.61E-02
		Cs-137	<2.10E-02	0.00E+00	2.10E-02
		Be-7	<1.42E-01	0.00E+00	1.42E-01
		K-40	5.55E-01	1.95E-01	1.77E-01
474876	5/7/2018 - 5/14/2018	I-131	<2.19E-02	0.00E+00	2.19E-02
		Cs-134	<1.65E-02	0.00E+00	1.65E-02
		Cs-137	<1.62E-02	0.00E+00	1.62E-02
		Be-7	<1.21E-01	0.00E+00	1.21E-01
		K-40	5.74E-01	1.98E-01	1.82E-01
475200	5/14/2018 - 5/21/2018	I-131	<2.30E-02	0.00E+00	2.30E-02
		Cs-134	<1.95E-02	0.00E+00	1.95E-02
		Cs-137	<1.56E-02	0.00E+00	1.56E-02
		Be-7	<1.34E-01	0.00E+00	1.34E-01
		K-40	3.79E-01	1.56E-01	1.37E-01
475525	5/21/2018 - 5/29/2018	I-131	<1.89E-02	0.00E+00	1.89E-02
		Cs-134	<1.67E-02	0.00E+00	1.67E-02
		Cs-137	<1.77E-02	0.00E+00	1.77E-02
		Be-7	<1.06E-01	0.00E+00	1.06E-01
		K-40	3.26E-01	1.52E-01	1.78E-01
476350	5/29/2018 - 6/4/2018	I-131	<2.88E-02	0.00E+00	2.88E-02
		Cs-134	<1.94E-02	0.00E+00	1.94E-02
		Cs-137	<1.59E-02	0.00E+00	1.59E-02
		Be-7	<1.35E-01	0.00E+00	1.35E-01
		K-40	5.55E-01	2.57E-01	3.31E-01
477362	6/4/2018 - 6/11/2018	I-131	<2.00E-02	0.00E+00	2.00E-02
		Cs-134	<1.98E-02	0.00E+00	1.98E-02
		Cs-137	<2.00E-02	0.00E+00	2.00E-02
		Be-7	<1.09E-01	0.00E+00	1.09E-01
		K-40	5.19E-01	2.05E-01	2.29E-01
478092	6/11/2018 - 6/18/2018	I-131	<2.85E-02	0.00E+00	2.85E-02
		Cs-134	<2.01E-02	0.00E+00	2.01E-02
		Cs-137	<1.86E-02	0.00E+00	1.86E-02
		Be-7	<1.31E-01	0.00E+00	1.31E-01
		K-40	4.05E-01	2.00E-01	2.55E-01
478412	6/18/2018 - 6/25/2018	I-131	<2.77E-02	0.00E+00	2.77E-02
		Cs-134	<1.70E-02	0.00E+00	1.70E-02
		Cs-137	<1.73E-02	0.00E+00	1.73E-02
		Be-7	<1.23E-01	0.00E+00	1.23E-01
		K-40	3.86E-01	1.88E-01	2.32E-01



# HARRIS Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: AIR RADIOIODINE Concentration (Activity): pCi/m3

Sample Point 5 [ CONTROL - WNW @ 12 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
478772	6/25/2018 - 7/2/2018	I-131	<2.06E-02	0.00E+00	2.06E-02
		Cs-134	<2.11E-02	0.00E+00	2.11E-02
		Cs-137	<1.49E-02	0.00E+00	1.49E-02
		Be-7	<1.30E-01	0.00E+00	1.30E-01
		K-40	6.20E-01	2.45E-01	2.99E-01
479044	7/2/2018 - 7/9/2018	I-131	<2.31E-02	0.00E+00	2.31E-02
		Cs-134	<1.56E-02	0.00E+00	1.56E-02
		Cs-137	<1.65E-02	0.00E+00	1.65E-02
		Be-7	<1.23E-01	0.00E+00	1.23E-01
		K-40	5.46E-01	1.88E-01	1.62E-01
479865	7/9/2018 - 7/16/2018	I-131	<2.20E-02	0.00E+00	2.20E-02
		Cs-134	<1.98E-02	0.00E+00	1.98E-02
		Cs-137	<2.06E-02	0.00E+00	2.06E-02
		Be-7	<1.29E-01	0.00E+00	1.29E-01
		K-40	3.96E-01	2.22E-01	3.08E-01
480235	7/16/2018 - 7/23/2018	I-131	<2.58E-02	0.00E+00	2.58E-02
		Cs-134	<1.78E-02	0.00E+00	1.78E-02
		Cs-137	<1.86E-02	0.00E+00	1.86E-02
		Be-7	<1.14E-01	0.00E+00	1.14E-01
		K-40	5.16E-01	1.82E-01	1.52E-01
481062	7/23/2018 - 7/30/2018	I-131	<2.44E-02	0.00E+00	2.44E-02
		Cs-134	<1.34E-02	0.00E+00	1.34E-02
		Cs-137	<2.09E-02	0.00E+00	2.09E-02
		Be-7	<1.44E-01	0.00E+00	1.44E-01
		K-40	<3.65E-01	0.00E+00	3.65E-01
481506	7/30/2018 - 8/6/2018	I-131	<2.62E-02	0.00E+00	2.62E-02
		Cs-134	<1.55E-02	0.00E+00	1.55E-02
		Cs-137	<1.74E-02	0.00E+00	1.74E-02
		Be-7	<1.08E-01	0.00E+00	1.08E-01
		K-40	4.96E-01	1.75E-01	1.44E-01
481939	8/6/2018 - 8/13/2018	I-131	<2.16E-02	0.00E+00	2.16E-02
		Cs-134	<1.39E-02	0.00E+00	1.39E-02
		Cs-137	<1.93E-02	0.00E+00	1.93E-02
		Be-7	<1.30E-01	0.00E+00	1.30E-01
		K-40	6.13E-01	2.23E-01	2.37E-01
482471	8/13/2018 - 8/20/2018	I-131	<1.78E-02	0.00E+00	1.78E-02
		Cs-134	<1.39E-02	0.00E+00	1.39E-02
		Cs-137	<1.42E-02	0.00E+00	1.42E-02
		Be-7	<1.08E-01	0.00E+00	1.08E-01
		K-40	3.23E-01	1.67E-01	2.05E-01
482796	8/20/2018 - 8/27/2018	I-131	<1.67E-02	0.00E+00	1.67E-02
		Cs-134	<1.18E-02	0.00E+00	1.18E-02
		Cs-137	<1.48E-02	0.00E+00	1.48E-02
		Be-7	<9.89E-02	0.00E+00	9.89E-02
		K-40	1.59E-01	1.43E-01	2.17E-01
483421	8/27/2018 - 9/4/2018	I-131	<2.12E-02	0.00E+00	2.12E-02
		Cs-134	<1.69E-02	0.00E+00	1.69E-02
		Cs-137	<1.11E-02	0.00E+00	1.11E-02
		Be-7	<9.08E-02	0.00E+00	9.08E-02
		K-40	4.05E-01	1.57E-01	1.55E-01



# HARRIS Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: AIR RADIOIODINE Concentration (Activity): pCi/m3

Sample Point 5 [ CONTROL - WNW @ 12 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
483996	9/4/2018 - 9/10/2018	I-131	<2.27E-02	0.00E+00	2.27E-02
		Cs-134	<2.39E-02	0.00E+00	2.39E-02
		Cs-137	<1.85E-02	0.00E+00	1.85E-02
		Be-7	<1.54E-01	0.00E+00	1.54E-01
		K-40	6.50E-01	2.59E-01	2.98E-01
484166	9/10/2018 - 9/17/2018	I-131	<3.41E-02	0.00E+00	3.41E-02
		Cs-134	<1.93E-02	0.00E+00	1.93E-02
		Cs-137	<1.93E-02	0.00E+00	1.93E-02
		Be-7	<1.17E-01	0.00E+00	1.17E-01
		K-40	3.94E-01	1.75E-01	1.92E-01
485017	9/17/2018 - 9/24/2018	I-131	<2.96E-02	0.00E+00	2.96E-02
		Cs-134	<2.07E-02	0.00E+00	2.07E-02
		Cs-137	<1.95E-02	0.00E+00	1.95E-02
		Be-7	<1.08E-01	0.00E+00	1.08E-01
		K-40	4.27E-01	1.86E-01	2.10E-01
485247	9/24/2018 - 10/1/2018	I-131	<3.14E-02	0.00E+00	3.14E-02
		Cs-134	<1.71E-02	0.00E+00	1.71E-02
		Cs-137	<1.56E-02	0.00E+00	1.56E-02
		Be-7	<1.14E-01	0.00E+00	1.14E-01
		K-40	5.54E-01	1.73E-01	3.41E-02
486141	10/1/2018 - 10/8/2018	I-131	<2.15E-02	0.00E+00	2.15E-02
		Cs-134	<1.38E-02	0.00E+00	1.38E-02
		Cs-137	<1.91E-02	0.00E+00	1.91E-02
		Be-7	<1.29E-01	0.00E+00	1.29E-01
		K-40	5.06E-01	1.83E-01	1.57E-01
486687	10/8/2018 - 10/15/2018	I-131	<2.34E-02	0.00E+00	2.34E-02
		Cs-134	<1.73E-02	0.00E+00	1.73E-02
		Cs-137	<1.73E-02	0.00E+00	1.73E-02
		Be-7	<1.35E-01	0.00E+00	1.35E-01
		K-40	4.91E-01	1.70E-01	1.13E-01
487726	10/15/2018 - 10/22/2018	I-131	<2.41E-02	0.00E+00	2.41E-02
		Cs-134	<1.75E-02	0.00E+00	1.75E-02
		Cs-137	<1.94E-02	0.00E+00	1.94E-02
		Be-7	<1.32E-01	0.00E+00	1.32E-01
		K-40	6.93E-01	2.23E-01	2.08E-01
487973	10/22/2018 - 10/29/2018	I-131	<2.09E-02	0.00E+00	2.09E-02
		Cs-134	<1.71E-02	0.00E+00	1.71E-02
		Cs-137	<1.80E-02	0.00E+00	1.80E-02
		Be-7	<1.08E-01	0.00E+00	1.08E-01
		K-40	2.74E-01	1.76E-01	2.48E-01
488458	10/29/2018 - 11/5/2018	I-131	<2.28E-02	0.00E+00	2.28E-02
		Cs-134	<1.55E-02	0.00E+00	1.55E-02
		Cs-137	<1.57E-02	0.00E+00	1.57E-02
		Be-7	<9.92E-02	0.00E+00	9.92E-02
		K-40	4.21E-01	2.08E-01	2.69E-01
488834	11/5/2018 - 11/12/2018	I-131	<1.96E-02	0.00E+00	1.96E-02
		Cs-134	<1.79E-02	0.00E+00	1.79E-02
		Cs-137	<1.68E-02	0.00E+00	1.68E-02
		Be-7	<1.26E-01	0.00E+00	1.26E-01
		K-40	3.51E-01	1.90E-01	2.51E-01





# HARRIS Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: AIR RADIOIODINE Concentration (Activity): pCi/m3

Sample Point 5 [ CONTROL - WNW @ 12 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
489138	11/12/2018 - 11/19/2018	I-131	<2.12E-02	0.00E+00	2.12E-02
		Cs-134	<1.74E-02	0.00E+00	1.74E-02
		Cs-137	<1.84E-02	0.00E+00	1.84E-02
		Be-7	<1.27E-01	0.00E+00	1.27E-01
		K-40	4.34E-01	1.72E-01	1.63E-01

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
489723	11/19/2018 - 11/26/2018	I-131	<2.35E-02	0.00E+00	2.35E-02
		Cs-134	<1.50E-02	0.00E+00	1.50E-02
		Cs-137	<1.57E-02	0.00E+00	1.57E-02
		Be-7	<1.12E-01	0.00E+00	1.12E-01
		K-40	4.80E-01	1.60E-01	3.42E-02

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
490139	11/26/2018 - 12/3/2018	I-131	<2.29E-02	0.00E+00	2.29E-02
		Cs-134	<1.82E-02	0.00E+00	1.82E-02
		Cs-137	<1.55E-02	0.00E+00	1.55E-02
		Be-7	<1.31E-01	0.00E+00	1.31E-01
		K-40	4.04E-01	1.93E-01	2.39E-01

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
490785	12/3/2018 - 12/11/2018	I-131	<2.22E-02	0.00E+00	2.22E-02
		Cs-134	<1.52E-02	0.00E+00	1.52E-02
		Cs-137	<1.34E-02	0.00E+00	1.34E-02
		Be-7	<1.07E-01	0.00E+00	1.07E-01
		K-40	<3.68E-01	0.00E+00	3.68E-01

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
491165	12/11/2018 - 12/18/2018	I-131	<1.44E-02	0.00E+00	1.44E-02
		Cs-134	<1.16E-02	0.00E+00	1.16E-02
		Cs-137	<1.68E-02	0.00E+00	1.68E-02
		Be-7	<9.40E-02	0.00E+00	9.40E-02
		K-40	<2.78E-01	0.00E+00	2.78E-01

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
491469	12/18/2018 - 12/26/2018	I-131	<3.51E-02	0.00E+00	3.51E-02
		Cs-134	<1.32E-02	0.00E+00	1.32E-02
		Cs-137	<1.62E-02	0.00E+00	1.62E-02
		Be-7	<9.53E-02	0.00E+00	9.53E-02
		K-40	4.31E-01	1.62E-01	1.56E-01

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
491734	12/26/2018 - 12/31/2018	I-131	<5.45E-02	0.00E+00	5.45E-02
		Cs-134	<2.51E-02	0.00E+00	2.51E-02
		Cs-137	<2.31E-02	0.00E+00	2.31E-02
		Be-7	<1.88E-01	0.00E+00	1.88E-01
		K-40	4.81E-01	2.57E-01	3.46E-01

## Sample Point 26 [ INDICATOR - S @ 4.7 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
465975	1/2/2018 - 1/8/2018	I-131	<2.95E-02	0.00E+00	2.95E-02
		Cs-134	<2.09E-02	0.00E+00	2.09E-02
		Cs-137	<2.08E-02	0.00E+00	2.08E-02
		Be-7	<1.53E-01	0.00E+00	1.53E-01
		K-40	6.96E-01	2.26E-01	1.76E-01

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
466175	1/8/2018 - 1/15/2018	I-131	<2.76E-02	0.00E+00	2.76E-02
		Cs-134	<1.35E-02	0.00E+00	1.35E-02
		Cs-137	<1.59E-02	0.00E+00	1.59E-02
		Be-7	<1.23E-01	0.00E+00	1.23E-01
		K-40	5.76E-01	2.11E-01	2.21E-01

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
466373	1/15/2018 - 1/22/2018	I-131	<2.11E-02	0.00E+00	2.11E-02
		Cs-134	<1.71E-02	0.00E+00	1.71E-02
		Cs-137	<1.72E-02	0.00E+00	1.72E-02



# HARRIS Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: AIR RADIOIODINE Concentration (Activity): pCi/m3

Sample Point 26 [ INDICATOR - S @ 4.7 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
466373	1/15/2018 - 1/22/2018	Be-7	<1.21E-01	0.00E+00	1.21E-01
		K-40	4.36E-01	1.82E-01	1.97E-01
466961	1/22/2018 - 1/29/2018	I-131	<2.09E-02	0.00E+00	2.09E-02
		Cs-134	<1.79E-02	0.00E+00	1.79E-02
		Cs-137	<1.94E-02	0.00E+00	1.94E-02
		Be-7	<1.04E-01	0.00E+00	1.04E-01
		K-40	3.38E-01	2.01E-01	2.78E-01
467320	1/29/2018 - 2/5/2018	I-131	<2.34E-02	0.00E+00	2.34E-02
		Cs-134	<1.59E-02	0.00E+00	1.59E-02
		Cs-137	<1.82E-02	0.00E+00	1.82E-02
		Be-7	<1.13E-01	0.00E+00	1.13E-01
		K-40	4.38E-01	2.08E-01	2.65E-01
467629	2/5/2018 - 2/12/2018	I-131	<2.50E-02	0.00E+00	2.50E-02
		Cs-134	<2.11E-02	0.00E+00	2.11E-02
		Cs-137	<1.60E-02	0.00E+00	1.60E-02
		Be-7	<1.26E-01	0.00E+00	1.26E-01
		K-40	4.04E-01	1.73E-01	1.84E-01
468421	2/12/2018 - 2/19/2018	I-131	<2.24E-02	0.00E+00	2.24E-02
		Cs-134	<1.64E-02	0.00E+00	1.64E-02
		Cs-137	<1.62E-02	0.00E+00	1.62E-02
		Be-7	<1.10E-01	0.00E+00	1.10E-01
		K-40	6.01E-01	1.96E-01	1.60E-01
468742	2/19/2018 - 2/26/2018	I-131	<1.83E-02	0.00E+00	1.83E-02
		Cs-134	<1.17E-02	0.00E+00	1.17E-02
		Cs-137	<1.62E-02	0.00E+00	1.62E-02
		Be-7	<1.20E-01	0.00E+00	1.20E-01
		K-40	6.43E-01	1.98E-01	1.28E-01
469554	2/26/2018 - 3/5/2018	I-131	<2.75E-02	0.00E+00	2.75E-02
		Cs-134	<1.91E-02	0.00E+00	1.91E-02
		Cs-137	<1.58E-02	0.00E+00	1.58E-02
		Be-7	<1.32E-01	0.00E+00	1.32E-01
		K-40	5.02E-01	1.92E-01	1.91E-01
470576	3/5/2018 - 3/12/2018	I-131	<2.04E-02	0.00E+00	2.04E-02
		Cs-134	<1.77E-02	0.00E+00	1.77E-02
		Cs-137	<1.68E-02	0.00E+00	1.68E-02
		Be-7	<1.21E-01	0.00E+00	1.21E-01
		K-40	6.81E-01	1.96E-01	3.55E-02
471143	3/12/2018 - 3/19/2018	I-131	<2.27E-02	0.00E+00	2.27E-02
		Cs-134	<1.71E-02	0.00E+00	1.71E-02
		Cs-137	<1.57E-02	0.00E+00	1.57E-02
		Be-7	<1.22E-01	0.00E+00	1.22E-01
		K-40	5.75E-01	2.25E-01	2.65E-01
471698	3/19/2018 - 3/26/2018	I-131	<2.19E-02	0.00E+00	2.19E-02
		Cs-134	<1.38E-02	0.00E+00	1.38E-02
		Cs-137	<1.57E-02	0.00E+00	1.57E-02
		Be-7	<1.29E-01	0.00E+00	1.29E-01
		K-40	5.70E-01	2.04E-01	2.00E-01
472485	3/26/2018 - 4/2/2018	I-131	<2.23E-02	0.00E+00	2.23E-02



# HARRIS Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: AIR RADIOIODINE Concentration (Activity): pCi/m3

Sample Point 26 [ INDICATOR - S @ 4.7 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
472485	3/26/2018 - 4/2/2018	Cs-134	<1.59E-02	0.00E+00	1.59E-02
		Cs-137	<1.58E-02	0.00E+00	1.58E-02
		Be-7	<1.35E-01	0.00E+00	1.35E-01
		K-40	5.36E-01	1.71E-01	3.46E-02
472960	4/2/2018 - 4/9/2018	I-131	<2.15E-02	0.00E+00	2.15E-02
		Cs-134	<1.61E-02	0.00E+00	1.61E-02
		Cs-137	<1.80E-02	0.00E+00	1.80E-02
		Be-7	<1.37E-01	0.00E+00	1.37E-01
		K-40	4.47E-01	2.06E-01	2.56E-01
473251	4/9/2018 - 4/16/2018	I-131	<2.40E-02	0.00E+00	2.40E-02
		Cs-134	<1.83E-02	0.00E+00	1.83E-02
		Cs-137	<1.80E-02	0.00E+00	1.80E-02
		Be-7	<1.30E-01	0.00E+00	1.30E-01
		K-40	4.45E-01	2.04E-01	2.54E-01
473616	4/16/2018 - 4/23/2018	I-131	<2.04E-02	0.00E+00	2.04E-02
		Cs-134	<1.46E-02	0.00E+00	1.46E-02
		Cs-137	<1.56E-02	0.00E+00	1.56E-02
		Be-7	<1.18E-01	0.00E+00	1.18E-01
		K-40	3.36E-01	1.82E-01	2.36E-01
474136	4/23/2018 - 4/30/2018	I-131	<2.44E-02	0.00E+00	2.44E-02
		Cs-134	<1.73E-02	0.00E+00	1.73E-02
		Cs-137	<1.95E-02	0.00E+00	1.95E-02
		Be-7	<1.46E-01	0.00E+00	1.46E-01
		K-40	4.29E-01	1.79E-01	1.90E-01
474514	4/30/2018 - 5/7/2018	I-131	<2.27E-02	0.00E+00	2.27E-02
		Cs-134	<1.42E-02	0.00E+00	1.42E-02
		Cs-137	<1.67E-02	0.00E+00	1.67E-02
		Be-7	<1.14E-01	0.00E+00	1.14E-01
		K-40	6.33E-01	2.05E-01	1.77E-01
474873	5/7/2018 - 5/14/2018	I-131	<2.32E-02	0.00E+00	2.32E-02
		Cs-134	<1.73E-02	0.00E+00	1.73E-02
		Cs-137	<2.04E-02	0.00E+00	2.04E-02
		Be-7	<1.41E-01	0.00E+00	1.41E-01
		K-40	4.26E-01	2.00E-01	2.50E-01
475197	5/14/2018 - 5/21/2018	I-131	<2.08E-02	0.00E+00	2.08E-02
		Cs-134	<1.77E-02	0.00E+00	1.77E-02
		Cs-137	<1.62E-02	0.00E+00	1.62E-02
		Be-7	<1.40E-01	0.00E+00	1.40E-01
		K-40	4.49E-01	1.79E-01	1.74E-01
475522	5/21/2018 - 5/29/2018	I-131	<1.94E-02	0.00E+00	1.94E-02
		Cs-134	<1.57E-02	0.00E+00	1.57E-02
		Cs-137	<1.47E-02	0.00E+00	1.47E-02
		Be-7	<1.38E-01	0.00E+00	1.38E-01
		K-40	3.01E-01	1.46E-01	1.72E-01
476347	5/29/2018 - 6/4/2018	I-131	<2.44E-02	0.00E+00	2.44E-02
		Cs-134	<1.69E-02	0.00E+00	1.69E-02
		Cs-137	<2.40E-02	0.00E+00	2.40E-02
		Be-7	<1.18E-01	0.00E+00	1.18E-01
		K-40	5.63E-01	2.37E-01	2.83E-01



# HARRIS Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: AIR RADIOIODINE Concentration (Activity): pCi/m3

Sample Point 26 [ INDICATOR - S @ 4.7 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
477359	6/4/2018 - 6/11/2018	I-131	<2.12E-02	0.00E+00	2.12E-02
		Cs-134	<1.65E-02	0.00E+00	1.65E-02
		Cs-137	<1.80E-02	0.00E+00	1.80E-02
		Be-7	<1.19E-01	0.00E+00	1.19E-01
		K-40	4.49E-01	1.72E-01	1.48E-01
478089	6/11/2018 - 6/18/2018	I-131	<2.33E-02	0.00E+00	2.33E-02
		Cs-134	<1.90E-02	0.00E+00	1.90E-02
		Cs-137	<1.51E-02	0.00E+00	1.51E-02
		Be-7	<1.20E-01	0.00E+00	1.20E-01
		K-40	5.65E-01	1.87E-01	1.32E-01
478409	6/18/2018 - 6/25/2018	I-131	<2.51E-02	0.00E+00	2.51E-02
		Cs-134	<1.98E-02	0.00E+00	1.98E-02
		Cs-137	<1.47E-02	0.00E+00	1.47E-02
		Be-7	<1.45E-01	0.00E+00	1.45E-01
		K-40	<3.32E-01	0.00E+00	3.32E-01
478769	6/25/2018 - 7/2/2018	I-131	<2.22E-02	0.00E+00	2.22E-02
		Cs-134	<1.92E-02	0.00E+00	1.92E-02
		Cs-137	<1.64E-02	0.00E+00	1.64E-02
		Be-7	<1.29E-01	0.00E+00	1.29E-01
		K-40	5.62E-01	1.75E-01	3.46E-02
479041	7/2/2018 - 7/9/2018	I-131	<2.02E-02	0.00E+00	2.02E-02
		Cs-134	<2.07E-02	0.00E+00	2.07E-02
		Cs-137	<1.86E-02	0.00E+00	1.86E-02
		Be-7	<1.17E-01	0.00E+00	1.17E-01
		K-40	4.12E-01	2.12E-01	2.84E-01
479862	7/9/2018 - 7/16/2018	I-131	<2.12E-02	0.00E+00	2.12E-02
		Cs-134	<1.62E-02	0.00E+00	1.62E-02
		Cs-137	<1.91E-02	0.00E+00	1.91E-02
		Be-7	<1.13E-01	0.00E+00	1.13E-01
		K-40	4.57E-01	1.88E-01	2.01E-01
480232	7/16/2018 - 7/23/2018	I-131	<3.05E-02	0.00E+00	3.05E-02
		Cs-134	<2.46E-02	0.00E+00	2.46E-02
		Cs-137	<2.22E-02	0.00E+00	2.22E-02
		Be-7	<1.43E-01	0.00E+00	1.43E-01
		K-40	5.51E-01	2.22E-01	2.21E-01
481059	7/23/2018 - 7/30/2018	I-131	<2.64E-02	0.00E+00	2.64E-02
		Cs-134	<1.72E-02	0.00E+00	1.72E-02
		Cs-137	<1.47E-02	0.00E+00	1.47E-02
		Be-7	<1.34E-01	0.00E+00	1.34E-01
		K-40	<4.01E-01	0.00E+00	4.01E-01
481503	7/30/2018 - 8/6/2018	I-131	<2.17E-02	0.00E+00	2.17E-02
		Cs-134	<1.41E-02	0.00E+00	1.41E-02
		Cs-137	<1.45E-02	0.00E+00	1.45E-02
		Be-7	<1.09E-01	0.00E+00	1.09E-01
		K-40	5.18E-01	1.74E-01	1.21E-01
481936	8/6/2018 - 8/13/2018	I-131	<2.22E-02	0.00E+00	2.22E-02
		Cs-134	<1.56E-02	0.00E+00	1.56E-02
		Cs-137	<1.78E-02	0.00E+00	1.78E-02
		Be-7	<1.11E-01	0.00E+00	1.11E-01
		K-40	5.46E-01	1.94E-01	1.73E-01



# HARRIS Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: AIR RADIOIODINE Concentration (Activity): pCi/m3

Sample Point 26 [ INDICATOR - S @ 4.7 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
482468	8/13/2018 - 8/20/2018	I-131	<1.79E-02	0.00E+00	1.79E-02
		Cs-134	<1.75E-02	0.00E+00	1.75E-02
		Cs-137	<1.67E-02	0.00E+00	1.67E-02
		Be-7	<9.27E-02	0.00E+00	9.27E-02
		K-40	4.96E-01	1.62E-01	3.36E-02
482793	8/20/2018 - 8/27/2018	I-131	<1.75E-02	0.00E+00	1.75E-02
		Cs-134	<1.29E-02	0.00E+00	1.29E-02
		Cs-137	<1.25E-02	0.00E+00	1.25E-02
		Be-7	<7.94E-02	0.00E+00	7.94E-02
		K-40	3.96E-01	1.49E-01	1.14E-01
483418	8/27/2018 - 9/4/2018	I-131	<1.92E-02	0.00E+00	1.92E-02
		Cs-134	<1.37E-02	0.00E+00	1.37E-02
		Cs-137	<1.46E-02	0.00E+00	1.46E-02
		Be-7	<1.08E-01	0.00E+00	1.08E-01
		K-40	3.53E-01	1.55E-01	1.74E-01
483993	9/4/2018 - 9/10/2018	I-131	<2.31E-02	0.00E+00	2.31E-02
		Cs-134	<2.20E-02	0.00E+00	2.20E-02
		Cs-137	<2.11E-02	0.00E+00	2.11E-02
		Be-7	<1.34E-01	0.00E+00	1.34E-01
		K-40	4.61E-01	2.02E-01	2.19E-01
484163	9/10/2018 - 9/17/2018	I-131	<4.88E-02	0.00E+00	4.88E-02
		Cs-134	<1.88E-02	0.00E+00	1.88E-02
		Cs-137	<2.60E-02	0.00E+00	2.60E-02
		Be-7	<1.70E-01	0.00E+00	1.70E-01
		K-40	6.38E-01	2.53E-01	2.71E-01
485014	9/17/2018 - 9/24/2018	I-131	<2.51E-02	0.00E+00	2.51E-02
		Cs-134	<1.69E-02	0.00E+00	1.69E-02
		Cs-137	<1.55E-02	0.00E+00	1.55E-02
		Be-7	<1.11E-01	0.00E+00	1.11E-01
		K-40	4.80E-01	1.86E-01	1.84E-01
485244	9/24/2018 - 10/1/2018	I-131	<2.99E-02	0.00E+00	2.99E-02
		Cs-134	<1.48E-02	0.00E+00	1.48E-02
		Cs-137	<1.83E-02	0.00E+00	1.83E-02
		Be-7	<1.06E-01	0.00E+00	1.06E-01
		K-40	5.91E-01	2.13E-01	2.25E-01
486138	10/1/2018 - 10/8/2018	I-131	<1.97E-02	0.00E+00	1.97E-02
		Cs-134	<2.06E-02	0.00E+00	2.06E-02
		Cs-137	<1.44E-02	0.00E+00	1.44E-02
		Be-7	<1.38E-01	0.00E+00	1.38E-01
		K-40	3.11E-01	1.83E-01	2.48E-01
486684	10/8/2018 - 10/11/2018	I-131	<5.40E-02	0.00E+00	5.40E-02
		Cs-134	<2.77E-02	0.00E+00	2.77E-02
		Cs-137	<2.77E-02	0.00E+00	2.77E-02
		Be-7	<1.99E-01	0.00E+00	1.99E-01
		K-40	1.02E+00	3.18E-01	3.00E-01
487723	10/15/2018 - 10/22/2018	I-131	<2.16E-02	0.00E+00	2.16E-02
		Cs-134	<1.44E-02	0.00E+00	1.44E-02
		Cs-137	<1.48E-02	0.00E+00	1.48E-02
		Be-7	<1.22E-01	0.00E+00	1.22E-01
		K-40	5.10E-01	1.91E-01	1.89E-01



# HARRIS Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: AIR RADIOIODINE Concentration (Activity): pCi/m3

Sample Point 26 [ INDICATOR - S @ 4.7 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
487970	10/22/2018 - 10/29/2018	I-131	<2.09E-02	0.00E+00	2.09E-02
		Cs-134	<1.69E-02	0.00E+00	1.69E-02
		Cs-137	<1.76E-02	0.00E+00	1.76E-02
		Be-7	<1.01E-01	0.00E+00	1.01E-01
		K-40	4.41E-01	2.07E-01	2.63E-01
488455	10/29/2018 - 11/5/2018	I-131	<2.21E-02	0.00E+00	2.21E-02
		Cs-134	<1.70E-02	0.00E+00	1.70E-02
		Cs-137	<1.87E-02	0.00E+00	1.87E-02
		Be-7	<1.29E-01	0.00E+00	1.29E-01
		K-40	4.62E-01	1.97E-01	2.27E-01
488831	11/5/2018 - 11/12/2018	I-131	<2.05E-02	0.00E+00	2.05E-02
		Cs-134	<1.59E-02	0.00E+00	1.59E-02
		Cs-137	<1.78E-02	0.00E+00	1.78E-02
		Be-7	<1.18E-01	0.00E+00	1.18E-01
		K-40	5.24E-01	1.91E-01	1.81E-01
489135	11/12/2018 - 11/19/2018	I-131	<2.08E-02	0.00E+00	2.08E-02
		Cs-134	<1.44E-02	0.00E+00	1.44E-02
		Cs-137	<1.84E-02	0.00E+00	1.84E-02
		Be-7	<1.24E-01	0.00E+00	1.24E-01
		K-40	4.34E-01	1.69E-01	1.50E-01
489720	11/19/2018 - 11/26/2018	I-131	<2.45E-02	0.00E+00	2.45E-02
		Cs-134	<1.49E-02	0.00E+00	1.49E-02
		Cs-137	<1.80E-02	0.00E+00	1.80E-02
		Be-7	<1.26E-01	0.00E+00	1.26E-01
		K-40	3.69E-01	1.75E-01	2.09E-01
490136	11/26/2018 - 12/3/2018	I-131	<2.40E-02	0.00E+00	2.40E-02
		Cs-134	<1.46E-02	0.00E+00	1.46E-02
		Cs-137	<1.67E-02	0.00E+00	1.67E-02
		Be-7	<1.10E-01	0.00E+00	1.10E-01
		K-40	6.26E-01	1.87E-01	3.53E-02
490782	12/3/2018 - 12/11/2018	I-131	<2.09E-02	0.00E+00	2.09E-02
		Cs-134	<1.52E-02	0.00E+00	1.52E-02
		Cs-137	<1.60E-02	0.00E+00	1.60E-02
		Be-7	<1.05E-01	0.00E+00	1.05E-01
		K-40	5.99E-01	1.83E-01	1.40E-01
491162	12/11/2018 - 12/18/2018	I-131	<1.84E-02	0.00E+00	1.84E-02
		Cs-134	<1.42E-02	0.00E+00	1.42E-02
		Cs-137	<1.69E-02	0.00E+00	1.69E-02
		Be-7	<9.16E-02	0.00E+00	9.16E-02
		K-40	3.74E-01	1.66E-01	1.85E-01
491466	12/18/2018 - 12/26/2018	I-131	<3.55E-02	0.00E+00	3.55E-02
		Cs-134	<1.50E-02	0.00E+00	1.50E-02
		Cs-137	<1.65E-02	0.00E+00	1.65E-02
		Be-7	<1.16E-01	0.00E+00	1.16E-01
		K-40	4.83E-01	1.71E-01	1.63E-01
491731	12/26/2018 - 12/31/2018	I-131	<5.20E-02	0.00E+00	5.20E-02
		Cs-134	<2.51E-02	0.00E+00	2.51E-02
		Cs-137	<2.94E-02	0.00E+00	2.94E-02
		Be-7	<1.94E-01	0.00E+00	1.94E-01
		K-40	7.03E-01	2.67E-01	2.60E-01



# HARRIS Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: AIR RADIOIODINE Concentration (Activity): pCi/m3

Sample Point 47 [ INDICATOR - SSW @ 3.4 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
465977	1/2/2018 - 1/8/2018	I-131	<2.54E-02	0.00E+00	2.54E-02
		Cs-134	<2.56E-02	0.00E+00	2.56E-02
		Cs-137	<2.08E-02	0.00E+00	2.08E-02
		Be-7	<1.56E-01	0.00E+00	1.56E-01
		K-40	7.30E-01	2.40E-01	2.11E-01
466177	1/8/2018 - 1/15/2018	I-131	<2.48E-02	0.00E+00	2.48E-02
		Cs-134	<1.52E-02	0.00E+00	1.52E-02
		Cs-137	<1.84E-02	0.00E+00	1.84E-02
		Be-7	<1.38E-01	0.00E+00	1.38E-01
		K-40	5.09E-01	2.02E-01	2.24E-01
466375	1/15/2018 - 1/22/2018	I-131	<4.48E-02	0.00E+00	4.48E-02
		Cs-134	<9.87E-03	0.00E+00	9.87E-03
		Cs-137	<1.04E-02	0.00E+00	1.04E-02
		Be-7	<1.01E-01	0.00E+00	1.01E-01
		K-40	2.30E-01	1.27E-01	1.78E-01
466963	1/22/2018 - 1/29/2018	I-131	<2.31E-02	0.00E+00	2.31E-02
		Cs-134	<1.86E-02	0.00E+00	1.86E-02
		Cs-137	<1.64E-02	0.00E+00	1.64E-02
		Be-7	<1.27E-01	0.00E+00	1.27E-01
		K-40	5.92E-01	2.26E-01	2.54E-01
467322	1/29/2018 - 2/5/2018	I-131	<2.31E-02	0.00E+00	2.31E-02
		Cs-134	<1.97E-02	0.00E+00	1.97E-02
		Cs-137	<1.73E-02	0.00E+00	1.73E-02
		Be-7	<1.19E-01	0.00E+00	1.19E-01
		K-40	4.97E-01	1.64E-01	3.45E-02
467631	2/5/2018 - 2/12/2018	I-131	<2.26E-02	0.00E+00	2.26E-02
		Cs-134	<1.99E-02	0.00E+00	1.99E-02
		Cs-137	<1.60E-02	0.00E+00	1.60E-02
		Be-7	<9.11E-02	0.00E+00	9.11E-02
		K-40	3.24E-01	1.84E-01	2.47E-01
468423	2/12/2018 - 2/19/2018	I-131	<2.32E-02	0.00E+00	2.32E-02
		Cs-134	<1.21E-02	0.00E+00	1.21E-02
		Cs-137	<1.75E-02	0.00E+00	1.75E-02
		Be-7	<1.34E-01	0.00E+00	1.34E-01
		K-40	7.29E-01	2.12E-01	1.49E-01
468744	2/19/2018 - 2/26/2018	I-131	<2.35E-02	0.00E+00	2.35E-02
		Cs-134	<1.83E-02	0.00E+00	1.83E-02
		Cs-137	<2.12E-02	0.00E+00	2.12E-02
		Be-7	<1.26E-01	0.00E+00	1.26E-01
		K-40	5.26E-01	2.09E-01	2.35E-01
469556	2/26/2018 - 3/5/2018	I-131	<2.49E-02	0.00E+00	2.49E-02
		Cs-134	<1.62E-02	0.00E+00	1.62E-02
		Cs-137	<1.72E-02	0.00E+00	1.72E-02
		Be-7	<1.12E-01	0.00E+00	1.12E-01
		K-40	4.88E-01	1.94E-01	2.04E-01
470578	3/5/2018 - 3/12/2018	I-131	<2.19E-02	0.00E+00	2.19E-02
		Cs-134	<1.79E-02	0.00E+00	1.79E-02
		Cs-137	<1.52E-02	0.00E+00	1.52E-02
		Be-7	<1.45E-01	0.00E+00	1.45E-01
		K-40	4.64E-01	1.72E-01	1.37E-01



# HARRIS Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: AIR RADIOIODINE Concentration (Activity): pCi/m3

Sample Point 47 [ INDICATOR - SSW @ 3.4 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
471145	3/12/2018 - 3/19/2018	I-131	<2.67E-02	0.00E+00	2.67E-02
		Cs-134	<1.84E-02	0.00E+00	1.84E-02
		Cs-137	<1.67E-02	0.00E+00	1.67E-02
		Be-7	<1.19E-01	0.00E+00	1.19E-01
		K-40	5.73E-01	2.20E-01	2.52E-01
471700	3/19/2018 - 3/26/2018	I-131	<2.87E-02	0.00E+00	2.87E-02
		Cs-134	<1.55E-02	0.00E+00	1.55E-02
		Cs-137	<1.77E-02	0.00E+00	1.77E-02
		Be-7	<1.14E-01	0.00E+00	1.14E-01
		K-40	4.71E-01	1.73E-01	1.40E-01
472487	3/26/2018 - 4/2/2018	I-131	<2.59E-02	0.00E+00	2.59E-02
		Cs-134	<1.59E-02	0.00E+00	1.59E-02
		Cs-137	<1.91E-02	0.00E+00	1.91E-02
		Be-7	<1.05E-01	0.00E+00	1.05E-01
		K-40	3.51E-01	1.75E-01	2.16E-01
472962	4/2/2018 - 4/9/2018	I-131	<1.96E-02	0.00E+00	1.96E-02
		Cs-134	<1.88E-02	0.00E+00	1.88E-02
		Cs-137	<1.66E-02	0.00E+00	1.66E-02
		Be-7	<1.16E-01	0.00E+00	1.16E-01
		K-40	3.97E-01	1.93E-01	2.41E-01
473253	4/9/2018 - 4/16/2018	I-131	<2.26E-02	0.00E+00	2.26E-02
		Cs-134	<1.89E-02	0.00E+00	1.89E-02
		Cs-137	<2.01E-02	0.00E+00	2.01E-02
		Be-7	<1.30E-01	0.00E+00	1.30E-01
		K-40	4.37E-01	1.70E-01	1.59E-01
473618	4/16/2018 - 4/23/2018	I-131	<2.40E-02	0.00E+00	2.40E-02
		Cs-134	<1.77E-02	0.00E+00	1.77E-02
		Cs-137	<2.12E-02	0.00E+00	2.12E-02
		Be-7	<1.08E-01	0.00E+00	1.08E-01
		K-40	5.70E-01	2.13E-01	2.26E-01
474138	4/23/2018 - 4/30/2018	I-131	<2.38E-02	0.00E+00	2.38E-02
		Cs-134	<2.03E-02	0.00E+00	2.03E-02
		Cs-137	<1.82E-02	0.00E+00	1.82E-02
		Be-7	<1.25E-01	0.00E+00	1.25E-01
		K-40	6.38E-01	1.87E-01	3.46E-02
474516	4/30/2018 - 5/7/2018	I-131	<2.02E-02	0.00E+00	2.02E-02
		Cs-134	<1.95E-02	0.00E+00	1.95E-02
		Cs-137	<1.57E-02	0.00E+00	1.57E-02
		Be-7	<1.20E-01	0.00E+00	1.20E-01
		K-40	<4.29E-01	0.00E+00	4.29E-01
474875	5/7/2018 - 5/14/2018	I-131	<2.09E-02	0.00E+00	2.09E-02
		Cs-134	<1.92E-02	0.00E+00	1.92E-02
		Cs-137	<1.96E-02	0.00E+00	1.96E-02
		Be-7	<1.13E-01	0.00E+00	1.13E-01
		K-40	3.59E-01	1.87E-01	2.42E-01
475199	5/14/2018 - 5/21/2018	I-131	<2.23E-02	0.00E+00	2.23E-02
		Cs-134	<1.70E-02	0.00E+00	1.70E-02
		Cs-137	<1.57E-02	0.00E+00	1.57E-02
		Be-7	<1.26E-01	0.00E+00	1.26E-01
		K-40	3.99E-01	2.23E-01	3.10E-01





# HARRIS Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: AIR RADIOIODINE Concentration (Activity): pCi/m3

Sample Point 47 [ INDICATOR - SSW @ 3.4 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
475524	5/21/2018 - 5/29/2018	I-131	<1.60E-02	0.00E+00	1.60E-02
		Cs-134	<1.39E-02	0.00E+00	1.39E-02
		Cs-137	<1.24E-02	0.00E+00	1.24E-02
		Be-7	<1.21E-01	0.00E+00	1.21E-01
		K-40	3.70E-01	1.42E-01	1.16E-01
476349	5/29/2018 - 6/4/2018	I-131	<3.28E-02	0.00E+00	3.28E-02
		Cs-134	<1.78E-02	0.00E+00	1.78E-02
		Cs-137	<1.83E-02	0.00E+00	1.83E-02
		Be-7	<1.26E-01	0.00E+00	1.26E-01
		K-40	6.57E-01	2.01E-01	3.87E-02
477361	6/4/2018 - 6/11/2018	I-131	<2.04E-02	0.00E+00	2.04E-02
		Cs-134	<1.89E-02	0.00E+00	1.89E-02
		Cs-137	<1.66E-02	0.00E+00	1.66E-02
		Be-7	<1.13E-01	0.00E+00	1.13E-01
		K-40	<3.88E-01	0.00E+00	3.88E-01
478091	6/11/2018 - 6/18/2018	I-131	<2.76E-02	0.00E+00	2.76E-02
		Cs-134	<1.73E-02	0.00E+00	1.73E-02
		Cs-137	<1.70E-02	0.00E+00	1.70E-02
		Be-7	<1.15E-01	0.00E+00	1.15E-01
		K-40	5.53E-01	2.04E-01	2.03E-01
478411	6/18/2018 - 6/25/2018	I-131	<2.39E-02	0.00E+00	2.39E-02
		Cs-134	<1.43E-02	0.00E+00	1.43E-02
		Cs-137	<1.58E-02	0.00E+00	1.58E-02
		Be-7	<1.10E-01	0.00E+00	1.10E-01
		K-40	3.00E-01	1.65E-01	2.11E-01
478771	6/25/2018 - 7/2/2018	I-131	<2.23E-02	0.00E+00	2.23E-02
		Cs-134	<1.80E-02	0.00E+00	1.80E-02
		Cs-137	<1.53E-02	0.00E+00	1.53E-02
		Be-7	<1.37E-01	0.00E+00	1.37E-01
		K-40	4.95E-01	1.94E-01	2.06E-01
479043	7/2/2018 - 7/9/2018	I-131	<2.14E-02	0.00E+00	2.14E-02
		Cs-134	<1.65E-02	0.00E+00	1.65E-02
		Cs-137	<1.73E-02	0.00E+00	1.73E-02
		Be-7	<1.25E-01	0.00E+00	1.25E-01
		K-40	5.05E-01	1.80E-01	1.51E-01
479864	7/9/2018 - 7/16/2018	I-131	<2.27E-02	0.00E+00	2.27E-02
		Cs-134	<1.17E-02	0.00E+00	1.17E-02
		Cs-137	<1.62E-02	0.00E+00	1.62E-02
		Be-7	<1.25E-01	0.00E+00	1.25E-01
		K-40	4.71E-01	1.95E-01	2.16E-01
480234	7/16/2018 - 7/23/2018	I-131	<2.18E-02	0.00E+00	2.18E-02
		Cs-134	<1.98E-02	0.00E+00	1.98E-02
		Cs-137	<1.69E-02	0.00E+00	1.69E-02
		Be-7	<1.24E-01	0.00E+00	1.24E-01
		K-40	5.81E-01	1.94E-01	1.61E-01
481061	7/23/2018 - 7/30/2018	I-131	<2.37E-02	0.00E+00	2.37E-02
		Cs-134	<1.53E-02	0.00E+00	1.53E-02
		Cs-137	<1.37E-02	0.00E+00	1.37E-02
		Be-7	<1.11E-01	0.00E+00	1.11E-01
		K-40	2.59E-01	1.95E-01	2.92E-01



# HARRIS Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: AIR RADIOIODINE Concentration (Activity): pCi/m3

Sample Point 47 [ INDICATOR - SSW @ 3.4 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
481505	7/30/2018 - 8/6/2018	I-131	<2.28E-02	0.00E+00	2.28E-02
		Cs-134	<1.56E-02	0.00E+00	1.56E-02
		Cs-137	<1.83E-02	0.00E+00	1.83E-02
		Be-7	<1.24E-01	0.00E+00	1.24E-01
		K-40	4.88E-01	1.94E-01	2.11E-01
481938	8/6/2018 - 8/13/2018	I-131	<2.16E-02	0.00E+00	2.16E-02
		Cs-134	<2.20E-02	0.00E+00	2.20E-02
		Cs-137	<1.73E-02	0.00E+00	1.73E-02
		Be-7	<1.21E-01	0.00E+00	1.21E-01
		K-40	4.70E-01	2.40E-01	3.27E-01
482470	8/13/2018 - 8/20/2018	I-131	<2.67E-02	0.00E+00	2.67E-02
		Cs-134	<1.48E-02	0.00E+00	1.48E-02
		Cs-137	<1.67E-02	0.00E+00	1.67E-02
		Be-7	<1.25E-01	0.00E+00	1.25E-01
		K-40	2.79E-01	1.31E-01	1.25E-01
482795	8/20/2018 - 8/27/2018	I-131	<1.42E-02	0.00E+00	1.42E-02
		Cs-134	<1.15E-02	0.00E+00	1.15E-02
		Cs-137	<1.38E-02	0.00E+00	1.38E-02
		Be-7	<8.35E-02	0.00E+00	8.35E-02
		K-40	<2.77E-01	0.00E+00	2.77E-01
483420	8/27/2018 - 9/4/2018	I-131	<2.10E-02	0.00E+00	2.10E-02
		Cs-134	<1.55E-02	0.00E+00	1.55E-02
		Cs-137	<1.50E-02	0.00E+00	1.50E-02
		Be-7	<9.18E-02	0.00E+00	9.18E-02
		K-40	3.06E-01	1.46E-01	1.70E-01
483995	9/4/2018 - 9/10/2018	I-131	<2.28E-02	0.00E+00	2.28E-02
		Cs-134	<2.27E-02	0.00E+00	2.27E-02
		Cs-137	<1.87E-02	0.00E+00	1.87E-02
		Be-7	<1.48E-01	0.00E+00	1.48E-01
		K-40	5.29E-01	2.12E-01	2.14E-01
484165	9/10/2018 - 9/17/2018	I-131	<3.54E-02	0.00E+00	3.54E-02
		Cs-134	<1.93E-02	0.00E+00	1.93E-02
		Cs-137	<2.04E-02	0.00E+00	2.04E-02
		Be-7	<1.13E-01	0.00E+00	1.13E-01
		K-40	<3.61E-01	0.00E+00	3.61E-01
485016	9/17/2018 - 9/24/2018	I-131	<2.52E-02	0.00E+00	2.52E-02
		Cs-134	<2.00E-02	0.00E+00	2.00E-02
		Cs-137	<1.98E-02	0.00E+00	1.98E-02
		Be-7	<1.17E-01	0.00E+00	1.17E-01
		K-40	5.13E-01	2.16E-01	2.59E-01
485246	9/24/2018 - 10/1/2018	I-131	<3.25E-02	0.00E+00	3.25E-02
		Cs-134	<2.00E-02	0.00E+00	2.00E-02
		Cs-137	<1.60E-02	0.00E+00	1.60E-02
		Be-7	<1.30E-01	0.00E+00	1.30E-01
		K-40	2.50E-01	1.89E-01	2.83E-01
486140	10/1/2018 - 10/8/2018	I-131	<2.23E-02	0.00E+00	2.23E-02
		Cs-134	<1.61E-02	0.00E+00	1.61E-02
		Cs-137	<1.76E-02	0.00E+00	1.76E-02
		Be-7	<1.31E-01	0.00E+00	1.31E-01
		K-40	3.77E-01	1.82E-01	2.20E-01



# HARRIS Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: AIR RADIOIODINE Concentration (Activity): pCi/m3

Sample Point 47 [ INDICATOR - SSW @ 3.4 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
486686	10/8/2018 - 10/15/2018	I-131	<2.65E-02	0.00E+00	2.65E-02
		Cs-134	<1.54E-02	0.00E+00	1.54E-02
		Cs-137	<1.61E-02	0.00E+00	1.61E-02
		Be-7	<1.28E-01	0.00E+00	1.28E-01
		K-40	5.84E-01	1.91E-01	1.38E-01
487725	10/15/2018 - 10/22/2018	I-131	<1.85E-02	0.00E+00	1.85E-02
		Cs-134	<2.05E-02	0.00E+00	2.05E-02
		Cs-137	<1.54E-02	0.00E+00	1.54E-02
		Be-7	<1.20E-01	0.00E+00	1.20E-01
		K-40	5.95E-01	1.99E-01	1.70E-01
487972	10/22/2018 - 10/29/2018	I-131	<2.58E-02	0.00E+00	2.58E-02
		Cs-134	<1.90E-02	0.00E+00	1.90E-02
		Cs-137	<1.71E-02	0.00E+00	1.71E-02
		Be-7	<1.14E-01	0.00E+00	1.14E-01
		K-40	<4.20E-01	0.00E+00	4.20E-01
488457	10/29/2018 - 11/5/2018	I-131	<2.35E-02	0.00E+00	2.35E-02
		Cs-134	<1.96E-02	0.00E+00	1.96E-02
		Cs-137	<1.51E-02	0.00E+00	1.51E-02
		Be-7	<1.03E-01	0.00E+00	1.03E-01
		K-40	4.05E-01	1.63E-01	1.42E-01
488833	11/5/2018 - 11/12/2018	I-131	<2.33E-02	0.00E+00	2.33E-02
		Cs-134	<1.59E-02	0.00E+00	1.59E-02
		Cs-137	<1.64E-02	0.00E+00	1.64E-02
		Be-7	<1.18E-01	0.00E+00	1.18E-01
		K-40	<3.44E-01	0.00E+00	3.44E-01
489137	11/12/2018 - 11/19/2018	I-131	<1.91E-02	0.00E+00	1.91E-02
		Cs-134	<1.60E-02	0.00E+00	1.60E-02
		Cs-137	<1.88E-02	0.00E+00	1.88E-02
		Be-7	<1.30E-01	0.00E+00	1.30E-01
		K-40	3.06E-01	1.74E-01	2.28E-01
489722	11/19/2018 - 11/26/2018	I-131	<2.28E-02	0.00E+00	2.28E-02
		Cs-134	<1.33E-02	0.00E+00	1.33E-02
		Cs-137	<1.45E-02	0.00E+00	1.45E-02
		Be-7	<1.01E-01	0.00E+00	1.01E-01
		K-40	3.45E-01	1.56E-01	1.63E-01
490138	11/26/2018 - 12/3/2018	I-131	<2.11E-02	0.00E+00	2.11E-02
		Cs-134	<1.76E-02	0.00E+00	1.76E-02
		Cs-137	<1.86E-02	0.00E+00	1.86E-02
		Be-7	<1.45E-01	0.00E+00	1.45E-01
		K-40	5.63E-01	1.87E-01	1.33E-01
490784	12/3/2018 - 12/11/2018	I-131	<1.88E-02	0.00E+00	1.88E-02
		Cs-134	<1.46E-02	0.00E+00	1.46E-02
		Cs-137	<1.67E-02	0.00E+00	1.67E-02
		Be-7	<1.15E-01	0.00E+00	1.15E-01
		K-40	3.22E-01	1.50E-01	1.71E-01
491164	12/11/2018 - 12/18/2018	I-131	<2.13E-02	0.00E+00	2.13E-02
		Cs-134	<1.36E-02	0.00E+00	1.36E-02
		Cs-137	<1.17E-02	0.00E+00	1.17E-02
		Be-7	<1.00E-01	0.00E+00	1.00E-01
		K-40	<2.78E-01	0.00E+00	2.78E-01



# HARRIS Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: AIR RADIOIODINE Concentration (Activity): pCi/m3

Sample Point 47 [ INDICATOR - SSW @ 3.4 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
491468	12/18/2018 - 12/26/2018	I-131	<3.20E-02	0.00E+00	3.20E-02
		Cs-134	<1.81E-02	0.00E+00	1.81E-02
		Cs-137	<1.37E-02	0.00E+00	1.37E-02
		Be-7	<9.84E-02	0.00E+00	9.84E-02
		K-40	3.56E-01	1.37E-01	1.08E-01

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
491733	12/26/2018 - 12/31/2018	I-131	<5.02E-02	0.00E+00	5.02E-02
		Cs-134	<2.87E-02	0.00E+00	2.87E-02
		Cs-137	<2.37E-02	0.00E+00	2.37E-02
		Be-7	<1.50E-01	0.00E+00	1.50E-01
		K-40	4.62E-01	2.65E-01	3.57E-01

Sample Point 63 [ INDICATOR - SW @ 0.6 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
465979	1/2/2018 - 1/8/2018	I-131	<3.10E-02	0.00E+00	3.10E-02
		Cs-134	<1.92E-02	0.00E+00	1.92E-02
		Cs-137	<1.64E-02	0.00E+00	1.64E-02
		Be-7	<1.48E-01	0.00E+00	1.48E-01
		K-40	5.56E-01	2.30E-01	2.62E-01

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
466179	1/8/2018 - 1/15/2018	I-131	<2.60E-02	0.00E+00	2.60E-02
		Cs-134	<1.81E-02	0.00E+00	1.81E-02
		Cs-137	<1.70E-02	0.00E+00	1.70E-02
		Be-7	<1.18E-01	0.00E+00	1.18E-01
		K-40	3.44E-01	1.80E-01	2.29E-01

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
466377	1/15/2018 - 1/22/2018	I-131	<2.22E-02	0.00E+00	2.22E-02
		Cs-134	<1.68E-02	0.00E+00	1.68E-02
		Cs-137	<1.49E-02	0.00E+00	1.49E-02
		Be-7	<1.15E-01	0.00E+00	1.15E-01
		K-40	5.74E-01	1.94E-01	1.72E-01

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
466965	1/22/2018 - 1/29/2018	I-131	<2.45E-02	0.00E+00	2.45E-02
		Cs-134	<2.01E-02	0.00E+00	2.01E-02
		Cs-137	<2.05E-02	0.00E+00	2.05E-02
		Be-7	<1.26E-01	0.00E+00	1.26E-01
		K-40	5.72E-01	2.17E-01	2.35E-01

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
467324	1/29/2018 - 2/5/2018	I-131	<2.22E-02	0.00E+00	2.22E-02
		Cs-134	<1.58E-02	0.00E+00	1.58E-02
		Cs-137	<1.81E-02	0.00E+00	1.81E-02
		Be-7	<1.33E-01	0.00E+00	1.33E-01
		K-40	3.62E-01	1.60E-01	1.66E-01

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
467633	2/5/2018 - 2/12/2018	I-131	<2.35E-02	0.00E+00	2.35E-02
		Cs-134	<2.12E-02	0.00E+00	2.12E-02
		Cs-137	<1.80E-02	0.00E+00	1.80E-02
		Be-7	<1.17E-01	0.00E+00	1.17E-01
		K-40	4.27E-01	1.68E-01	1.53E-01

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
468425	2/12/2018 - 2/19/2018	I-131	<2.54E-02	0.00E+00	2.54E-02
		Cs-134	<1.60E-02	0.00E+00	1.60E-02
		Cs-137	<1.76E-02	0.00E+00	1.76E-02
		Be-7	<1.43E-01	0.00E+00	1.43E-01
		K-40	5.90E-01	1.87E-01	1.34E-01

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
468746	2/19/2018 - 2/26/2018	I-131	<2.34E-02	0.00E+00	2.34E-02
		Cs-134	<2.01E-02	0.00E+00	2.01E-02
		Cs-137	<1.82E-02	0.00E+00	1.82E-02



# HARRIS Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: AIR RADIOIODINE Concentration (Activity): pCi/m3

Sample Point 63 [ INDICATOR - SW @ 0.6 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
468746	2/19/2018 - 2/26/2018	Be-7	<1.23E-01	0.00E+00	1.23E-01
		K-40	<4.31E-01	0.00E+00	4.31E-01
469558	2/26/2018 - 3/5/2018	I-131	<2.66E-02	0.00E+00	2.66E-02
		Cs-134	<1.81E-02	0.00E+00	1.81E-02
		Cs-137	<1.54E-02	0.00E+00	1.54E-02
		Be-7	<1.07E-01	0.00E+00	1.07E-01
		K-40	4.76E-01	1.61E-01	3.49E-02
470580	3/5/2018 - 3/12/2018	I-131	<2.36E-02	0.00E+00	2.36E-02
		Cs-134	<1.58E-02	0.00E+00	1.58E-02
		Cs-137	<1.63E-02	0.00E+00	1.63E-02
		Be-7	<1.21E-01	0.00E+00	1.21E-01
		K-40	7.77E-01	2.08E-01	3.45E-02
471147	3/12/2018 - 3/19/2018	I-131	<2.35E-02	0.00E+00	2.35E-02
		Cs-134	<1.86E-02	0.00E+00	1.86E-02
		Cs-137	<1.31E-02	0.00E+00	1.31E-02
		Be-7	<1.19E-01	0.00E+00	1.19E-01
		K-40	5.70E-01	1.74E-01	3.36E-02
471702	3/19/2018 - 3/26/2018	I-131	<2.06E-02	0.00E+00	2.06E-02
		Cs-134	<1.81E-02	0.00E+00	1.81E-02
		Cs-137	<1.54E-02	0.00E+00	1.54E-02
		Be-7	<1.34E-01	0.00E+00	1.34E-01
		K-40	3.82E-01	1.96E-01	2.51E-01
472489	3/26/2018 - 4/2/2018	I-131	<2.31E-02	0.00E+00	2.31E-02
		Cs-134	<1.84E-02	0.00E+00	1.84E-02
		Cs-137	<2.10E-02	0.00E+00	2.10E-02
		Be-7	<1.15E-01	0.00E+00	1.15E-01
		K-40	<3.53E-01	0.00E+00	3.53E-01
472964	4/2/2018 - 4/9/2018	I-131	<2.13E-02	0.00E+00	2.13E-02
		Cs-134	<2.01E-02	0.00E+00	2.01E-02
		Cs-137	<2.11E-02	0.00E+00	2.11E-02
		Be-7	<1.32E-01	0.00E+00	1.32E-01
		K-40	5.70E-01	2.10E-01	2.19E-01
473255	4/9/2018 - 4/16/2018	I-131	<2.04E-02	0.00E+00	2.04E-02
		Cs-134	<2.02E-02	0.00E+00	2.02E-02
		Cs-137	<1.63E-02	0.00E+00	1.63E-02
		Be-7	<1.16E-01	0.00E+00	1.16E-01
		K-40	4.68E-01	1.82E-01	1.88E-01
473620	4/16/2018 - 4/23/2018	I-131	<2.37E-02	0.00E+00	2.37E-02
		Cs-134	<1.74E-02	0.00E+00	1.74E-02
		Cs-137	<1.35E-02	0.00E+00	1.35E-02
		Be-7	<1.15E-01	0.00E+00	1.15E-01
		K-40	4.46E-01	2.12E-01	2.68E-01
474140	4/23/2018 - 4/30/2018	I-131	<2.71E-02	0.00E+00	2.71E-02
		Cs-134	<1.64E-02	0.00E+00	1.64E-02
		Cs-137	<1.51E-02	0.00E+00	1.51E-02
		Be-7	<1.01E-01	0.00E+00	1.01E-01
		K-40	4.16E-01	1.49E-01	3.42E-02
474518	4/30/2018 - 5/7/2018	I-131	<2.19E-02	0.00E+00	2.19E-02



# HARRIS Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: AIR RADIOIODINE Concentration (Activity): pCi/m3

Sample Point 63 [ INDICATOR - SW @ 0.6 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
474518	4/30/2018 - 5/7/2018	Cs-134	<1.55E-02	0.00E+00	1.55E-02
		Cs-137	<1.51E-02	0.00E+00	1.51E-02
		Be-7	<1.44E-01	0.00E+00	1.44E-01
		K-40	5.19E-01	2.06E-01	2.29E-01
474877	5/7/2018 - 5/14/2018	I-131	<2.13E-02	0.00E+00	2.13E-02
		Cs-134	<2.00E-02	0.00E+00	2.00E-02
		Cs-137	<1.83E-02	0.00E+00	1.83E-02
		Be-7	<1.14E-01	0.00E+00	1.14E-01
		K-40	4.54E-01	1.79E-01	1.86E-01
475201	5/14/2018 - 5/21/2018	I-131	<2.30E-02	0.00E+00	2.30E-02
		Cs-134	<1.58E-02	0.00E+00	1.58E-02
		Cs-137	<1.95E-02	0.00E+00	1.95E-02
		Be-7	<1.16E-01	0.00E+00	1.16E-01
		K-40	5.84E-01	1.97E-01	1.56E-01
475526	5/21/2018 - 5/29/2018	I-131	<1.98E-02	0.00E+00	1.98E-02
		Cs-134	<1.77E-02	0.00E+00	1.77E-02
		Cs-137	<1.51E-02	0.00E+00	1.51E-02
		Be-7	<1.11E-01	0.00E+00	1.11E-01
		K-40	3.22E-01	1.80E-01	2.49E-01
476351	5/29/2018 - 6/4/2018	I-131	<3.04E-02	0.00E+00	3.04E-02
		Cs-134	<2.32E-02	0.00E+00	2.32E-02
		Cs-137	<1.98E-02	0.00E+00	1.98E-02
		Be-7	<1.24E-01	0.00E+00	1.24E-01
		K-40	3.85E-01	2.07E-01	2.66E-01
477363	6/4/2018 - 6/11/2018	I-131	<1.87E-02	0.00E+00	1.87E-02
		Cs-134	<1.55E-02	0.00E+00	1.55E-02
		Cs-137	<1.87E-02	0.00E+00	1.87E-02
		Be-7	<1.09E-01	0.00E+00	1.09E-01
		K-40	4.17E-01	2.00E-01	2.55E-01
478093	6/11/2018 - 6/18/2018	I-131	<3.63E-02	0.00E+00	3.63E-02
		Cs-134	<1.67E-02	0.00E+00	1.67E-02
		Cs-137	<2.17E-02	0.00E+00	2.17E-02
		Be-7	<1.41E-01	0.00E+00	1.41E-01
		K-40	4.14E-01	1.79E-01	1.92E-01
478413	6/18/2018 - 6/25/2018	I-131	<2.55E-02	0.00E+00	2.55E-02
		Cs-134	<1.78E-02	0.00E+00	1.78E-02
		Cs-137	<1.81E-02	0.00E+00	1.81E-02
		Be-7	<1.19E-01	0.00E+00	1.19E-01
		K-40	4.62E-01	1.66E-01	1.21E-01
478773	6/25/2018 - 7/2/2018	I-131	<2.15E-02	0.00E+00	2.15E-02
		Cs-134	<1.97E-02	0.00E+00	1.97E-02
		Cs-137	<1.51E-02	0.00E+00	1.51E-02
		Be-7	<1.46E-01	0.00E+00	1.46E-01
		K-40	4.77E-01	2.07E-01	2.46E-01
479045	7/2/2018 - 7/9/2018	I-131	<2.30E-02	0.00E+00	2.30E-02
		Cs-134	<1.85E-02	0.00E+00	1.85E-02
		Cs-137	<1.58E-02	0.00E+00	1.58E-02
		Be-7	<1.27E-01	0.00E+00	1.27E-01
		K-40	6.31E-01	1.91E-01	1.24E-01



# HARRIS Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: AIR RADIOIODINE Concentration (Activity): pCi/m3

Sample Point 63 [ INDICATOR - SW @ 0.6 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
479866	7/9/2018 - 7/16/2018	I-131	<1.97E-02	0.00E+00	1.97E-02
		Cs-134	<1.79E-02	0.00E+00	1.79E-02
		Cs-137	<1.89E-02	0.00E+00	1.89E-02
		Be-7	<1.38E-01	0.00E+00	1.38E-01
		K-40	5.22E-01	2.20E-01	2.62E-01
480236	7/16/2018 - 7/23/2018	I-131	<1.97E-02	0.00E+00	1.97E-02
		Cs-134	<1.79E-02	0.00E+00	1.79E-02
		Cs-137	<1.41E-02	0.00E+00	1.41E-02
		Be-7	<1.29E-01	0.00E+00	1.29E-01
		K-40	5.28E-01	1.76E-01	1.17E-01
481063	7/23/2018 - 7/30/2018	I-131	<2.44E-02	0.00E+00	2.44E-02
		Cs-134	<1.69E-02	0.00E+00	1.69E-02
		Cs-137	<1.76E-02	0.00E+00	1.76E-02
		Be-7	<1.05E-01	0.00E+00	1.05E-01
		K-40	5.11E-01	1.88E-01	1.73E-01
481507	7/30/2018 - 8/6/2018	I-131	<2.81E-02	0.00E+00	2.81E-02
		Cs-134	<1.94E-02	0.00E+00	1.94E-02
		Cs-137	<1.30E-02	0.00E+00	1.30E-02
		Be-7	<1.09E-01	0.00E+00	1.09E-01
		K-40	4.55E-01	1.67E-01	1.28E-01
481940	8/6/2018 - 8/13/2018	I-131	<2.09E-02	0.00E+00	2.09E-02
		Cs-134	<1.85E-02	0.00E+00	1.85E-02
		Cs-137	<1.77E-02	0.00E+00	1.77E-02
		Be-7	<1.17E-01	0.00E+00	1.17E-01
		K-40	5.32E-01	2.04E-01	2.19E-01
482472	8/13/2018 - 8/20/2018	I-131	<1.55E-02	0.00E+00	1.55E-02
		Cs-134	<1.33E-02	0.00E+00	1.33E-02
		Cs-137	<1.48E-02	0.00E+00	1.48E-02
		Be-7	<9.20E-02	0.00E+00	9.20E-02
		K-40	1.69E-01	1.13E-01	1.42E-01
482797	8/20/2018 - 8/27/2018	I-131	<1.45E-02	0.00E+00	1.45E-02
		Cs-134	<1.46E-02	0.00E+00	1.46E-02
		Cs-137	<1.42E-02	0.00E+00	1.42E-02
		Be-7	<9.46E-02	0.00E+00	9.46E-02
		K-40	<3.37E-01	0.00E+00	3.37E-01
483422	8/27/2018 - 9/4/2018	I-131	<1.97E-02	0.00E+00	1.97E-02
		Cs-134	<1.64E-02	0.00E+00	1.64E-02
		Cs-137	<1.56E-02	0.00E+00	1.56E-02
		Be-7	<7.00E-02	0.00E+00	7.00E-02
		K-40	4.77E-01	1.89E-01	2.19E-01
483997	9/4/2018 - 9/10/2018	I-131	<2.81E-02	0.00E+00	2.81E-02
		Cs-134	<1.76E-02	0.00E+00	1.76E-02
		Cs-137	<1.95E-02	0.00E+00	1.95E-02
		Be-7	<1.60E-01	0.00E+00	1.60E-01
		K-40	5.66E-01	2.35E-01	2.61E-01
484167	9/10/2018 - 9/17/2018	I-131	<3.23E-02	0.00E+00	3.23E-02
		Cs-134	<1.94E-02	0.00E+00	1.94E-02
		Cs-137	<1.91E-02	0.00E+00	1.91E-02
		Be-7	<1.30E-01	0.00E+00	1.30E-01
		K-40	5.50E-01	2.01E-01	2.07E-01



# HARRIS Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: AIR RADIOIODINE Concentration (Activity): pCi/m3

Sample Point 63 [ INDICATOR - SW @ 0.6 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
485018	9/17/2018 - 9/24/2018	I-131	<2.28E-02	0.00E+00	2.28E-02
		Cs-134	<1.27E-02	0.00E+00	1.27E-02
		Cs-137	<1.57E-02	0.00E+00	1.57E-02
		Be-7	<1.19E-01	0.00E+00	1.19E-01
		K-40	4.57E-01	1.98E-01	2.30E-01
485248	9/24/2018 - 10/1/2018	I-131	<3.50E-02	0.00E+00	3.50E-02
		Cs-134	<2.00E-02	0.00E+00	2.00E-02
		Cs-137	<1.75E-02	0.00E+00	1.75E-02
		Be-7	<1.07E-01	0.00E+00	1.07E-01
		K-40	4.64E-01	1.55E-01	3.31E-02
486142	10/1/2018 - 10/8/2018	I-131	<2.15E-02	0.00E+00	2.15E-02
		Cs-134	<1.52E-02	0.00E+00	1.52E-02
		Cs-137	<1.73E-02	0.00E+00	1.73E-02
		Be-7	<1.21E-01	0.00E+00	1.21E-01
		K-40	4.49E-01	2.17E-01	2.79E-01
486688	10/8/2018 - 10/15/2018	I-131	<2.10E-02	0.00E+00	2.10E-02
		Cs-134	<1.77E-02	0.00E+00	1.77E-02
		Cs-137	<1.51E-02	0.00E+00	1.51E-02
		Be-7	<1.19E-01	0.00E+00	1.19E-01
		K-40	4.16E-01	2.04E-01	2.66E-01
487727	10/15/2018 - 10/22/2018	I-131	<2.32E-02	0.00E+00	2.32E-02
		Cs-134	<1.82E-02	0.00E+00	1.82E-02
		Cs-137	<2.06E-02	0.00E+00	2.06E-02
		Be-7	<1.17E-01	0.00E+00	1.17E-01
		K-40	4.12E-01	1.65E-01	1.49E-01
487974	10/22/2018 - 10/29/2018	I-131	<2.34E-02	0.00E+00	2.34E-02
		Cs-134	<1.73E-02	0.00E+00	1.73E-02
		Cs-137	<1.31E-02	0.00E+00	1.31E-02
		Be-7	<1.15E-01	0.00E+00	1.15E-01
		K-40	2.49E-01	1.88E-01	2.82E-01
488459	10/29/2018 - 11/5/2018	I-131	<2.01E-02	0.00E+00	2.01E-02
		Cs-134	<2.01E-02	0.00E+00	2.01E-02
		Cs-137	<1.66E-02	0.00E+00	1.66E-02
		Be-7	<1.26E-01	0.00E+00	1.26E-01
		K-40	4.55E-01	1.74E-01	1.47E-01
488835	11/5/2018 - 11/12/2018	I-131	<2.32E-02	0.00E+00	2.32E-02
		Cs-134	<1.25E-02	0.00E+00	1.25E-02
		Cs-137	<1.68E-02	0.00E+00	1.68E-02
		Be-7	<1.24E-01	0.00E+00	1.24E-01
		K-40	4.49E-01	1.88E-01	2.08E-01
489139	11/12/2018 - 11/19/2018	I-131	<2.31E-02	0.00E+00	2.31E-02
		Cs-134	<1.99E-02	0.00E+00	1.99E-02
		Cs-137	<2.01E-02	0.00E+00	2.01E-02
		Be-7	<1.12E-01	0.00E+00	1.12E-01
		K-40	4.34E-01	2.05E-01	2.60E-01
489724	11/19/2018 - 11/26/2018	I-131	<2.34E-02	0.00E+00	2.34E-02
		Cs-134	<1.74E-02	0.00E+00	1.74E-02
		Cs-137	<1.48E-02	0.00E+00	1.48E-02
		Be-7	<1.21E-01	0.00E+00	1.21E-01
		K-40	4.95E-01	1.61E-01	3.36E-02





# HARRIS Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: AIR RADIOIODINE Concentration (Activity): pCi/m3

Sample Point 63 [ INDICATOR - SW @ 0.6 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
490140	11/26/2018 - 12/3/2018	I-131	<2.17E-02	0.00E+00	2.17E-02
		Cs-134	<2.05E-02	0.00E+00	2.05E-02
		Cs-137	<1.64E-02	0.00E+00	1.64E-02
		Be-7	<1.33E-01	0.00E+00	1.33E-01
		K-40	3.88E-01	1.70E-01	1.77E-01
490786	12/3/2018 - 12/11/2018	I-131	<2.04E-02	0.00E+00	2.04E-02
		Cs-134	<1.63E-02	0.00E+00	1.63E-02
		Cs-137	<1.39E-02	0.00E+00	1.39E-02
		Be-7	<1.13E-01	0.00E+00	1.13E-01
		K-40	5.55E-01	1.76E-01	1.37E-01
491166	12/11/2018 - 12/18/2018	I-131	<2.55E-02	0.00E+00	2.55E-02
		Cs-134	<1.88E-02	0.00E+00	1.88E-02
		Cs-137	<1.94E-02	0.00E+00	1.94E-02
		Be-7	<1.32E-01	0.00E+00	1.32E-01
		K-40	4.29E-01	2.06E-01	2.63E-01
491470	12/18/2018 - 12/26/2018	I-131	<3.61E-02	0.00E+00	3.61E-02
		Cs-134	<1.48E-02	0.00E+00	1.48E-02
		Cs-137	<1.44E-02	0.00E+00	1.44E-02
		Be-7	<1.12E-01	0.00E+00	1.12E-01
		K-40	2.74E-01	1.47E-01	1.87E-01
491735	12/26/2018 - 12/31/2018	I-131	<3.84E-02	0.00E+00	3.84E-02
		Cs-134	<2.58E-02	0.00E+00	2.58E-02
		Cs-137	<1.81E-02	0.00E+00	1.81E-02
		Be-7	<1.81E-01	0.00E+00	1.81E-01
		K-40	6.00E-01	2.93E-01	3.72E-01

## Sample Point 90 [ INDICATOR - SSW @ 0.5 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
465980	1/2/2018 - 1/8/2018	I-131	<2.99E-02	0.00E+00	2.99E-02
		Cs-134	<1.84E-02	0.00E+00	1.84E-02
		Cs-137	<1.89E-02	0.00E+00	1.89E-02
		Be-7	<1.38E-01	0.00E+00	1.38E-01
		K-40	4.77E-01	2.10E-01	2.38E-01
466180	1/8/2018 - 1/15/2018	I-131	<2.49E-02	0.00E+00	2.49E-02
		Cs-134	<1.88E-02	0.00E+00	1.88E-02
		Cs-137	<2.31E-02	0.00E+00	2.31E-02
		Be-7	<1.18E-01	0.00E+00	1.18E-01
		K-40	5.30E-01	2.05E-01	2.22E-01
466378	1/15/2018 - 1/22/2018	I-131	<2.44E-02	0.00E+00	2.44E-02
		Cs-134	<1.62E-02	0.00E+00	1.62E-02
		Cs-137	<1.59E-02	0.00E+00	1.59E-02
		Be-7	<1.12E-01	0.00E+00	1.12E-01
		K-40	4.62E-01	1.65E-01	1.25E-01
466966	1/22/2018 - 1/29/2018	I-131	<2.43E-02	0.00E+00	2.43E-02
		Cs-134	<1.95E-02	0.00E+00	1.95E-02
		Cs-137	<1.72E-02	0.00E+00	1.72E-02
		Be-7	<1.13E-01	0.00E+00	1.13E-01
		K-40	4.48E-01	1.91E-01	2.11E-01
467325	1/29/2018 - 2/5/2018	I-131	<2.60E-02	0.00E+00	2.60E-02
		Cs-134	<1.78E-02	0.00E+00	1.78E-02
		Cs-137	<1.85E-02	0.00E+00	1.85E-02



# HARRIS Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: AIR RADIOIODINE Concentration (Activity): pCi/m3

Sample Point 90 [ INDICATOR - SSW @ 0.5 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
467325	1/29/2018 - 2/5/2018	Be-7	<1.24E-01	0.00E+00	1.24E-01
		K-40	6.26E-01	2.00E-01	1.61E-01
467634	2/5/2018 - 2/12/2018	I-131	<2.43E-02	0.00E+00	2.43E-02
		Cs-134	<1.82E-02	0.00E+00	1.82E-02
		Cs-137	<1.24E-02	0.00E+00	1.24E-02
		Be-7	<1.14E-01	0.00E+00	1.14E-01
		K-40	4.48E-01	1.94E-01	2.25E-01
468426	2/12/2018 - 2/19/2018	I-131	<2.59E-02	0.00E+00	2.59E-02
		Cs-134	<2.02E-02	0.00E+00	2.02E-02
		Cs-137	<1.84E-02	0.00E+00	1.84E-02
		Be-7	<1.19E-01	0.00E+00	1.19E-01
		K-40	3.47E-01	1.45E-01	1.26E-01
468747	2/19/2018 - 2/26/2018	I-131	<2.57E-02	0.00E+00	2.57E-02
		Cs-134	<2.01E-02	0.00E+00	2.01E-02
		Cs-137	<1.86E-02	0.00E+00	1.86E-02
		Be-7	<1.29E-01	0.00E+00	1.29E-01
		K-40	5.85E-01	2.18E-01	2.32E-01
469559	2/26/2018 - 3/5/2018	I-131	<2.45E-02	0.00E+00	2.45E-02
		Cs-134	<1.81E-02	0.00E+00	1.81E-02
		Cs-137	<1.60E-02	0.00E+00	1.60E-02
		Be-7	<1.07E-01	0.00E+00	1.07E-01
		K-40	4.79E-01	1.93E-01	2.10E-01
470581	3/5/2018 - 3/12/2018	I-131	<2.29E-02	0.00E+00	2.29E-02
		Cs-134	<1.73E-02	0.00E+00	1.73E-02
		Cs-137	<1.82E-02	0.00E+00	1.82E-02
		Be-7	<1.35E-01	0.00E+00	1.35E-01
		K-40	4.39E-01	2.06E-01	2.60E-01
471148	3/12/2018 - 3/19/2018	I-131	<2.24E-02	0.00E+00	2.24E-02
		Cs-134	<1.97E-02	0.00E+00	1.97E-02
		Cs-137	<1.59E-02	0.00E+00	1.59E-02
		Be-7	<1.25E-01	0.00E+00	1.25E-01
		K-40	3.69E-01	2.04E-01	2.80E-01
471703	3/19/2018 - 3/26/2018	I-131	<2.14E-02	0.00E+00	2.14E-02
		Cs-134	<1.58E-02	0.00E+00	1.58E-02
		Cs-137	<1.71E-02	0.00E+00	1.71E-02
		Be-7	<1.28E-01	0.00E+00	1.28E-01
		K-40	4.22E-01	1.96E-01	2.37E-01
472490	3/26/2018 - 4/2/2018	I-131	<2.49E-02	0.00E+00	2.49E-02
		Cs-134	<2.07E-02	0.00E+00	2.07E-02
		Cs-137	<1.41E-02	0.00E+00	1.41E-02
		Be-7	<1.21E-01	0.00E+00	1.21E-01
		K-40	5.42E-01	2.04E-01	2.17E-01
472965	4/2/2018 - 4/9/2018	I-131	<2.43E-02	0.00E+00	2.43E-02
		Cs-134	<1.69E-02	0.00E+00	1.69E-02
		Cs-137	<1.81E-02	0.00E+00	1.81E-02
		Be-7	<1.23E-01	0.00E+00	1.23E-01
		K-40	4.71E-01	1.86E-01	1.90E-01
473256	4/9/2018 - 4/16/2018	I-131	<2.05E-02	0.00E+00	2.05E-02



# HARRIS Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: AIR RADIOIODINE Concentration (Activity): pCi/m3

Sample Point 90 [ INDICATOR - SSW @ 0.5 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
473256	4/9/2018 - 4/16/2018	Cs-134	<1.80E-02	0.00E+00	1.80E-02
		Cs-137	<1.93E-02	0.00E+00	1.93E-02
		Be-7	<1.25E-01	0.00E+00	1.25E-01
		K-40	3.43E-01	1.78E-01	2.28E-01
473621	4/16/2018 - 4/23/2018	I-131	<2.50E-02	0.00E+00	2.50E-02
		Cs-134	<1.58E-02	0.00E+00	1.58E-02
		Cs-137	<1.42E-02	0.00E+00	1.42E-02
		Be-7	<1.37E-01	0.00E+00	1.37E-01
474141	4/23/2018 - 4/30/2018	K-40	4.78E-01	1.94E-01	2.05E-01
		I-131	<2.40E-02	0.00E+00	2.40E-02
		Cs-134	<1.57E-02	0.00E+00	1.57E-02
		Cs-137	<1.51E-02	0.00E+00	1.51E-02
474519	4/30/2018 - 5/7/2018	Be-7	<1.08E-01	0.00E+00	1.08E-01
		K-40	4.42E-01	1.66E-01	1.37E-01
		I-131	<2.24E-02	0.00E+00	2.24E-02
		Cs-134	<1.63E-02	0.00E+00	1.63E-02
474878	5/7/2018 - 5/14/2018	Cs-137	<1.57E-02	0.00E+00	1.57E-02
		Be-7	<1.49E-01	0.00E+00	1.49E-01
		K-40	4.71E-01	2.06E-01	2.47E-01
		I-131	<2.28E-02	0.00E+00	2.28E-02
475202	5/14/2018 - 5/21/2018	Cs-134	<1.53E-02	0.00E+00	1.53E-02
		Cs-137	<1.57E-02	0.00E+00	1.57E-02
		Be-7	<1.14E-01	0.00E+00	1.14E-01
		K-40	4.66E-01	1.77E-01	1.73E-01
475202	5/14/2018 - 5/21/2018	I-131	<2.17E-02	0.00E+00	2.17E-02
		Cs-134	<1.73E-02	0.00E+00	1.73E-02
		Cs-137	<1.86E-02	0.00E+00	1.86E-02
		Be-7	<1.22E-01	0.00E+00	1.22E-01
475202	5/14/2018 - 5/21/2018	K-40	4.09E-01	1.84E-01	2.07E-01
		I-131	<1.69E-02	0.00E+00	1.69E-02
		Cs-134	<1.44E-02	0.00E+00	1.44E-02
		Cs-137	<1.66E-02	0.00E+00	1.66E-02
475527	5/21/2018 - 5/29/2018	Be-7	<1.06E-01	0.00E+00	1.06E-01
		K-40	2.46E-01	1.22E-01	1.29E-01
		I-131	<3.01E-02	0.00E+00	3.01E-02
		Cs-134	<1.78E-02	0.00E+00	1.78E-02
476352	5/29/2018 - 6/4/2018	Cs-137	<2.39E-02	0.00E+00	2.39E-02
		Be-7	<1.47E-01	0.00E+00	1.47E-01
		K-40	5.06E-01	2.37E-01	2.96E-01
		I-131	<2.07E-02	0.00E+00	2.07E-02
477364	6/4/2018 - 6/11/2018	Cs-134	<1.69E-02	0.00E+00	1.69E-02
		Cs-137	<1.60E-02	0.00E+00	1.60E-02
		Be-7	<1.15E-01	0.00E+00	1.15E-01
		K-40	4.50E-01	1.65E-01	1.30E-01
478094	6/11/2018 - 6/18/2018	I-131	<3.92E-02	0.00E+00	3.92E-02
		Cs-134	<1.82E-02	0.00E+00	1.82E-02
		Cs-137	<1.91E-02	0.00E+00	1.91E-02
		Be-7	<1.35E-01	0.00E+00	1.35E-01
478094	6/11/2018 - 6/18/2018	K-40	6.25E-01	2.13E-01	1.97E-01



# HARRIS Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: AIR RADIOIODINE Concentration (Activity): pCi/m3

Sample Point 90 [ INDICATOR - SSW @ 0.5 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
478414	6/18/2018 - 6/25/2018	I-131	<2.48E-02	0.00E+00	2.48E-02
		Cs-134	<1.85E-02	0.00E+00	1.85E-02
		Cs-137	<1.57E-02	0.00E+00	1.57E-02
		Be-7	<1.13E-01	0.00E+00	1.13E-01
		K-40	3.21E-01	1.69E-01	2.11E-01
478774	6/25/2018 - 7/2/2018	I-131	<2.27E-02	0.00E+00	2.27E-02
		Cs-134	<1.90E-02	0.00E+00	1.90E-02
		Cs-137	<1.57E-02	0.00E+00	1.57E-02
		Be-7	<1.14E-01	0.00E+00	1.14E-01
		K-40	6.24E-01	2.11E-01	1.95E-01
479046	7/2/2018 - 7/9/2018	I-131	<1.91E-02	0.00E+00	1.91E-02
		Cs-134	<1.96E-02	0.00E+00	1.96E-02
		Cs-137	<1.37E-02	0.00E+00	1.37E-02
		Be-7	<1.10E-01	0.00E+00	1.10E-01
		K-40	4.43E-01	1.75E-01	1.77E-01
479867	7/9/2018 - 7/16/2018	I-131	<2.20E-02	0.00E+00	2.20E-02
		Cs-134	<1.98E-02	0.00E+00	1.98E-02
		Cs-137	<2.26E-02	0.00E+00	2.26E-02
		Be-7	<1.18E-01	0.00E+00	1.18E-01
		K-40	4.45E-01	1.85E-01	1.97E-01
480237	7/16/2018 - 7/23/2018	I-131	<2.25E-02	0.00E+00	2.25E-02
		Cs-134	<1.85E-02	0.00E+00	1.85E-02
		Cs-137	<1.95E-02	0.00E+00	1.95E-02
		Be-7	<1.08E-01	0.00E+00	1.08E-01
		K-40	4.11E-01	2.02E-01	2.61E-01
481064	7/23/2018 - 7/30/2018	I-131	<2.40E-02	0.00E+00	2.40E-02
		Cs-134	<1.69E-02	0.00E+00	1.69E-02
		Cs-137	<1.76E-02	0.00E+00	1.76E-02
		Be-7	<1.22E-01	0.00E+00	1.22E-01
		K-40	4.03E-01	1.88E-01	2.25E-01
481508	7/30/2018 - 8/6/2018	I-131	<3.33E-02	0.00E+00	3.33E-02
		Cs-134	<1.94E-02	0.00E+00	1.94E-02
		Cs-137	<1.80E-02	0.00E+00	1.80E-02
		Be-7	<1.01E-01	0.00E+00	1.01E-01
		K-40	4.13E-01	1.96E-01	2.44E-01
481941	8/6/2018 - 8/13/2018	I-131	<2.52E-02	0.00E+00	2.52E-02
		Cs-134	<1.14E-02	0.00E+00	1.14E-02
		Cs-137	<1.63E-02	0.00E+00	1.63E-02
		Be-7	<1.04E-01	0.00E+00	1.04E-01
		K-40	4.33E-01	1.87E-01	2.13E-01
482473	8/13/2018 - 8/20/2018	I-131	<1.64E-02	0.00E+00	1.64E-02
		Cs-134	<1.03E-02	0.00E+00	1.03E-02
		Cs-137	<1.38E-02	0.00E+00	1.38E-02
		Be-7	<9.77E-02	0.00E+00	9.77E-02
		K-40	2.20E-01	1.15E-01	1.07E-01
482798	8/20/2018 - 8/27/2018	I-131	<1.01E-02	0.00E+00	1.01E-02
		Cs-134	<1.57E-02	0.00E+00	1.57E-02
		Cs-137	<1.35E-02	0.00E+00	1.35E-02
		Be-7	<1.23E-01	0.00E+00	1.23E-01
		K-40	<2.93E-01	0.00E+00	2.93E-01



# HARRIS Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: AIR RADIOIODINE Concentration (Activity): pCi/m3

Sample Point 90 [ INDICATOR - SSW @ 0.5 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
483423	8/27/2018 - 9/4/2018	I-131	<1.91E-02	0.00E+00	1.91E-02
		Cs-134	<1.30E-02	0.00E+00	1.30E-02
		Cs-137	<1.04E-02	0.00E+00	1.04E-02
		Be-7	<7.77E-02	0.00E+00	7.77E-02
		K-40	3.16E-01	1.66E-01	2.18E-01
483998	9/4/2018 - 9/10/2018	I-131	<2.78E-02	0.00E+00	2.78E-02
		Cs-134	<2.20E-02	0.00E+00	2.20E-02
		Cs-137	<2.45E-02	0.00E+00	2.45E-02
		Be-7	<1.67E-01	0.00E+00	1.67E-01
		K-40	5.97E-01	1.99E-01	4.25E-02
484168	9/10/2018 - 9/17/2018	I-131	<4.26E-02	0.00E+00	4.26E-02
		Cs-134	<1.77E-02	0.00E+00	1.77E-02
		Cs-137	<1.65E-02	0.00E+00	1.65E-02
		Be-7	<1.07E-01	0.00E+00	1.07E-01
		K-40	3.74E-01	1.72E-01	1.98E-01
485019	9/17/2018 - 9/24/2018	I-131	<2.41E-02	0.00E+00	2.41E-02
		Cs-134	<1.55E-02	0.00E+00	1.55E-02
		Cs-137	<2.04E-02	0.00E+00	2.04E-02
		Be-7	<1.05E-01	0.00E+00	1.05E-01
		K-40	<3.22E-01	0.00E+00	3.22E-01
485249	9/24/2018 - 10/1/2018	I-131	<3.19E-02	0.00E+00	3.19E-02
		Cs-134	<1.66E-02	0.00E+00	1.66E-02
		Cs-137	<1.75E-02	0.00E+00	1.75E-02
		Be-7	<9.62E-02	0.00E+00	9.62E-02
		K-40	5.24E-01	1.77E-01	1.37E-01
486143	10/1/2018 - 10/8/2018	I-131	<2.20E-02	0.00E+00	2.20E-02
		Cs-134	<1.83E-02	0.00E+00	1.83E-02
		Cs-137	<1.44E-02	0.00E+00	1.44E-02
		Be-7	<1.28E-01	0.00E+00	1.28E-01
		K-40	6.71E-01	2.13E-01	1.67E-01
486689	10/8/2018 - 10/15/2018	I-131	<2.83E-02	0.00E+00	2.83E-02
		Cs-134	<1.77E-02	0.00E+00	1.77E-02
		Cs-137	<1.51E-02	0.00E+00	1.51E-02
		Be-7	<1.13E-01	0.00E+00	1.13E-01
		K-40	4.87E-01	1.86E-01	1.89E-01
487728	10/15/2018 - 10/22/2018	I-131	<2.59E-02	0.00E+00	2.59E-02
		Cs-134	<1.94E-02	0.00E+00	1.94E-02
		Cs-137	<1.49E-02	0.00E+00	1.49E-02
		Be-7	<9.19E-02	0.00E+00	9.19E-02
		K-40	4.70E-01	1.81E-01	1.74E-01
487975	10/22/2018 - 10/29/2018	I-131	<1.75E-02	0.00E+00	1.75E-02
		Cs-134	<1.80E-02	0.00E+00	1.80E-02
		Cs-137	<1.89E-02	0.00E+00	1.89E-02
		Be-7	<1.36E-01	0.00E+00	1.36E-01
		K-40	5.55E-01	2.01E-01	2.08E-01
488460	10/29/2018 - 11/5/2018	I-131	<2.17E-02	0.00E+00	2.17E-02
		Cs-134	<2.01E-02	0.00E+00	2.01E-02
		Cs-137	<1.96E-02	0.00E+00	1.96E-02
		Be-7	<1.32E-01	0.00E+00	1.32E-01
		K-40	3.43E-01	1.62E-01	1.77E-01



# HARRIS Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: AIR RADIOIODINE Concentration (Activity): pCi/m3

Sample Point 90 [ INDICATOR - SSW @ 0.5 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
488836	11/5/2018 - 11/12/2018	I-131	<2.18E-02	0.00E+00	2.18E-02
		Cs-134	<1.58E-02	0.00E+00	1.58E-02
		Cs-137	<1.63E-02	0.00E+00	1.63E-02
		Be-7	<1.29E-01	0.00E+00	1.29E-01
		K-40	3.30E-01	1.67E-01	2.03E-01

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
489140	11/12/2018 - 11/19/2018	I-131	<1.14E-02	0.00E+00	1.14E-02
		Cs-134	<7.47E-03	0.00E+00	7.47E-03
		Cs-137	<6.76E-03	0.00E+00	6.76E-03
		Be-7	<5.17E-02	0.00E+00	5.17E-02
		K-40	2.81E-01	8.11E-02	9.34E-02

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
489725	11/19/2018 - 11/26/2018	I-131	<2.12E-02	0.00E+00	2.12E-02
		Cs-134	<1.39E-02	0.00E+00	1.39E-02
		Cs-137	<1.63E-02	0.00E+00	1.63E-02
		Be-7	<1.24E-01	0.00E+00	1.24E-01
		K-40	4.54E-01	1.79E-01	1.85E-01

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
490141	11/26/2018 - 12/3/2018	I-131	<2.42E-02	0.00E+00	2.42E-02
		Cs-134	<1.57E-02	0.00E+00	1.57E-02
		Cs-137	<1.59E-02	0.00E+00	1.59E-02
		Be-7	2.03E-02	7.97E-02	1.42E-01
		K-40	2.89E-01	1.37E-01	1.54E-01

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
490787	12/3/2018 - 12/11/2018	I-131	<2.08E-02	0.00E+00	2.08E-02
		Cs-134	<1.58E-02	0.00E+00	1.58E-02
		Cs-137	<1.43E-02	0.00E+00	1.43E-02
		Be-7	<1.08E-01	0.00E+00	1.08E-01
		K-40	4.15E-01	1.40E-01	3.04E-02

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
491167	12/11/2018 - 12/18/2018	I-131	<3.43E-02	0.00E+00	3.43E-02
		Cs-134	<1.38E-02	0.00E+00	1.38E-02
		Cs-137	<1.63E-02	0.00E+00	1.63E-02
		Be-7	<1.20E-01	0.00E+00	1.20E-01
		K-40	4.66E-01	2.04E-01	2.48E-01

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
491471	12/18/2018 - 12/26/2018	I-131	<3.05E-02	0.00E+00	3.05E-02
		Cs-134	<1.42E-02	0.00E+00	1.42E-02
		Cs-137	<1.39E-02	0.00E+00	1.39E-02
		Be-7	<1.27E-01	0.00E+00	1.27E-01
		K-40	4.67E-01	1.58E-01	1.23E-01

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
491736	12/26/2018 - 12/31/2018	I-131	<5.39E-02	0.00E+00	5.39E-02
		Cs-134	<2.13E-02	0.00E+00	2.13E-02
		Cs-137	<2.43E-02	0.00E+00	2.43E-02
		Be-7	<1.81E-01	0.00E+00	1.81E-01
		K-40	6.51E-01	3.03E-01	3.79E-01

Sample Point 91 [ INDICATOR - ENE @ 1.6 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
465981	1/2/2018 - 1/8/2018	I-131	<2.80E-02	0.00E+00	2.80E-02
		Cs-134	<1.51E-02	0.00E+00	1.51E-02
		Cs-137	<1.91E-02	0.00E+00	1.91E-02
		Be-7	<1.24E-01	0.00E+00	1.24E-01
		K-40	4.48E-01	1.67E-01	4.05E-02

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
466181	1/8/2018 - 1/15/2018	I-131	<2.47E-02	0.00E+00	2.47E-02
		Cs-134	<1.44E-02	0.00E+00	1.44E-02
		Cs-137	<1.36E-02	0.00E+00	1.36E-02



# HARRIS Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: AIR RADIOIODINE Concentration (Activity): pCi/m3

Sample Point 91 [ INDICATOR - ENE @ 1.6 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
466181	1/8/2018 - 1/15/2018	Be-7	<1.38E-01	0.00E+00	1.38E-01
		K-40	5.10E-01	2.02E-01	2.23E-01
466379	1/15/2018 - 1/22/2018	I-131	<2.55E-02	0.00E+00	2.55E-02
		Cs-134	<1.66E-02	0.00E+00	1.66E-02
		Cs-137	<1.71E-02	0.00E+00	1.71E-02
		Be-7	<1.23E-01	0.00E+00	1.23E-01
		K-40	5.81E-01	1.92E-01	1.64E-01
466967	1/22/2018 - 1/29/2018	I-131	<2.46E-02	0.00E+00	2.46E-02
		Cs-134	<1.96E-02	0.00E+00	1.96E-02
		Cs-137	<1.83E-02	0.00E+00	1.83E-02
		Be-7	<1.30E-01	0.00E+00	1.30E-01
		K-40	<4.14E-01	0.00E+00	4.14E-01
467326	1/29/2018 - 2/5/2018	I-131	<2.46E-02	0.00E+00	2.46E-02
		Cs-134	<2.03E-02	0.00E+00	2.03E-02
		Cs-137	<1.73E-02	0.00E+00	1.73E-02
		Be-7	<1.51E-01	0.00E+00	1.51E-01
		K-40	4.96E-01	1.97E-01	2.16E-01
467635	2/5/2018 - 2/12/2018	I-131	<1.89E-02	0.00E+00	1.89E-02
		Cs-134	<1.60E-02	0.00E+00	1.60E-02
		Cs-137	<1.60E-02	0.00E+00	1.60E-02
		Be-7	<1.10E-01	0.00E+00	1.10E-01
		K-40	6.20E-01	1.94E-01	1.32E-01
468427	2/12/2018 - 2/19/2018	I-131	<2.33E-02	0.00E+00	2.33E-02
		Cs-134	<1.37E-02	0.00E+00	1.37E-02
		Cs-137	<1.65E-02	0.00E+00	1.65E-02
		Be-7	<1.12E-01	0.00E+00	1.12E-01
		K-40	3.85E-01	1.57E-01	1.48E-01
468748	2/19/2018 - 2/26/2018	I-131	<2.24E-02	0.00E+00	2.24E-02
		Cs-134	<1.76E-02	0.00E+00	1.76E-02
		Cs-137	<1.79E-02	0.00E+00	1.79E-02
		Be-7	<1.24E-01	0.00E+00	1.24E-01
		K-40	5.28E-01	1.74E-01	3.67E-02
469560	2/26/2018 - 3/5/2018	I-131	<2.34E-02	0.00E+00	2.34E-02
		Cs-134	<2.12E-02	0.00E+00	2.12E-02
		Cs-137	<1.46E-02	0.00E+00	1.46E-02
		Be-7	<1.12E-01	0.00E+00	1.12E-01
		K-40	3.86E-01	1.75E-01	2.00E-01
470582	3/5/2018 - 3/12/2018	I-131	<2.38E-02	0.00E+00	2.38E-02
		Cs-134	<2.12E-02	0.00E+00	2.12E-02
		Cs-137	<1.85E-02	0.00E+00	1.85E-02
		Be-7	<1.26E-01	0.00E+00	1.26E-01
		K-40	4.51E-01	1.72E-01	1.50E-01
471149	3/12/2018 - 3/19/2018	I-131	<2.31E-02	0.00E+00	2.31E-02
		Cs-134	<1.53E-02	0.00E+00	1.53E-02
		Cs-137	<1.42E-02	0.00E+00	1.42E-02
		Be-7	<1.15E-01	0.00E+00	1.15E-01
		K-40	4.21E-01	1.69E-01	1.69E-01
471704	3/19/2018 - 3/26/2018	I-131	<2.28E-02	0.00E+00	2.28E-02



# HARRIS Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: AIR RADIOIODINE Concentration (Activity): pCi/m3

Sample Point 91 [ INDICATOR - ENE @ 1.6 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
471704	3/19/2018 - 3/26/2018	Cs-134	<1.82E-02	0.00E+00	1.82E-02
		Cs-137	<2.19E-02	0.00E+00	2.19E-02
		Be-7	<1.20E-01	0.00E+00	1.20E-01
		K-40	4.35E-01	2.07E-01	2.58E-01
472491	3/26/2018 - 4/2/2018	I-131	<2.12E-02	0.00E+00	2.12E-02
		Cs-134	<2.39E-02	0.00E+00	2.39E-02
		Cs-137	<1.73E-02	0.00E+00	1.73E-02
		Be-7	<1.36E-01	0.00E+00	1.36E-01
		K-40	2.57E-01	1.65E-01	2.27E-01
472966	4/2/2018 - 4/9/2018	I-131	<2.19E-02	0.00E+00	2.19E-02
		Cs-134	<2.06E-02	0.00E+00	2.06E-02
		Cs-137	<1.80E-02	0.00E+00	1.80E-02
		Be-7	<1.17E-01	0.00E+00	1.17E-01
		K-40	4.45E-01	1.64E-01	1.22E-01
473257	4/9/2018 - 4/16/2018	I-131	<1.90E-02	0.00E+00	1.90E-02
		Cs-134	<1.52E-02	0.00E+00	1.52E-02
		Cs-137	<1.75E-02	0.00E+00	1.75E-02
		Be-7	<1.34E-01	0.00E+00	1.34E-01
		K-40	5.02E-01	1.62E-01	3.32E-02
473622	4/16/2018 - 4/23/2018	I-131	<2.19E-02	0.00E+00	2.19E-02
		Cs-134	<2.00E-02	0.00E+00	2.00E-02
		Cs-137	<1.60E-02	0.00E+00	1.60E-02
		Be-7	<1.34E-01	0.00E+00	1.34E-01
		K-40	5.14E-01	1.82E-01	1.41E-01
474142	4/23/2018 - 4/30/2018	I-131	<2.47E-02	0.00E+00	2.47E-02
		Cs-134	<1.88E-02	0.00E+00	1.88E-02
		Cs-137	<1.70E-02	0.00E+00	1.70E-02
		Be-7	<1.21E-01	0.00E+00	1.21E-01
		K-40	5.51E-01	2.08E-01	2.24E-01
474520	4/30/2018 - 5/7/2018	I-131	<2.39E-02	0.00E+00	2.39E-02
		Cs-134	<1.86E-02	0.00E+00	1.86E-02
		Cs-137	<1.48E-02	0.00E+00	1.48E-02
		Be-7	<9.44E-02	0.00E+00	9.44E-02
		K-40	<3.77E-01	0.00E+00	3.77E-01
474879	5/7/2018 - 5/14/2018	I-131	<2.26E-02	0.00E+00	2.26E-02
		Cs-134	<1.96E-02	0.00E+00	1.96E-02
		Cs-137	<1.96E-02	0.00E+00	1.96E-02
		Be-7	<1.23E-01	0.00E+00	1.23E-01
		K-40	4.51E-01	1.78E-01	1.84E-01
475203	5/14/2018 - 5/21/2018	I-131	<1.87E-02	0.00E+00	1.87E-02
		Cs-134	<1.82E-02	0.00E+00	1.82E-02
		Cs-137	<1.82E-02	0.00E+00	1.82E-02
		Be-7	<1.43E-01	0.00E+00	1.43E-01
		K-40	3.13E-01	1.98E-01	2.80E-01
475528	5/21/2018 - 5/29/2018	I-131	<2.15E-02	0.00E+00	2.15E-02
		Cs-134	<1.39E-02	0.00E+00	1.39E-02
		Cs-137	<1.56E-02	0.00E+00	1.56E-02
		Be-7	<1.01E-01	0.00E+00	1.01E-01
		K-40	3.93E-01	1.55E-01	1.54E-01





# HARRIS Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: AIR RADIOIODINE Concentration (Activity): pCi/m3

Sample Point 91 [ INDICATOR - ENE @ 1.6 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
476353	5/29/2018 - 6/4/2018	I-131	<2.77E-02	0.00E+00	2.77E-02
		Cs-134	<2.59E-02	0.00E+00	2.59E-02
		Cs-137	<1.83E-02	0.00E+00	1.83E-02
		Be-7	<1.44E-01	0.00E+00	1.44E-01
		K-40	6.51E-01	2.14E-01	1.51E-01
477365	6/4/2018 - 6/11/2018	I-131	<2.28E-02	0.00E+00	2.28E-02
		Cs-134	<1.76E-02	0.00E+00	1.76E-02
		Cs-137	<1.50E-02	0.00E+00	1.50E-02
		Be-7	<1.12E-01	0.00E+00	1.12E-01
		K-40	3.98E-01	1.72E-01	1.88E-01
478095	6/11/2018 - 6/18/2018	I-131	<3.81E-02	0.00E+00	3.81E-02
		Cs-134	<2.21E-02	0.00E+00	2.21E-02
		Cs-137	<1.92E-02	0.00E+00	1.92E-02
		Be-7	<1.26E-01	0.00E+00	1.26E-01
		K-40	3.77E-01	1.73E-01	1.91E-01
478415	6/18/2018 - 6/25/2018	I-131	<2.51E-02	0.00E+00	2.51E-02
		Cs-134	<1.66E-02	0.00E+00	1.66E-02
		Cs-137	<1.86E-02	0.00E+00	1.86E-02
		Be-7	<1.17E-01	0.00E+00	1.17E-01
		K-40	5.35E-01	1.70E-01	3.45E-02
478775	6/25/2018 - 7/2/2018	I-131	<1.91E-02	0.00E+00	1.91E-02
		Cs-134	<1.92E-02	0.00E+00	1.92E-02
		Cs-137	<1.48E-02	0.00E+00	1.48E-02
		Be-7	<1.21E-01	0.00E+00	1.21E-01
		K-40	3.52E-01	1.64E-01	1.83E-01
479047	7/2/2018 - 7/9/2018	I-131	<2.14E-02	0.00E+00	2.14E-02
		Cs-134	<1.89E-02	0.00E+00	1.89E-02
		Cs-137	<1.84E-02	0.00E+00	1.84E-02
		Be-7	<1.27E-01	0.00E+00	1.27E-01
		K-40	5.40E-01	1.95E-01	1.90E-01
479868	7/9/2018 - 7/16/2018	I-131	<2.21E-02	0.00E+00	2.21E-02
		Cs-134	<1.71E-02	0.00E+00	1.71E-02
		Cs-137	<1.58E-02	0.00E+00	1.58E-02
		Be-7	<1.14E-01	0.00E+00	1.14E-01
		K-40	3.72E-01	1.55E-01	1.36E-01
480238	7/16/2018 - 7/23/2018	I-131	<2.45E-02	0.00E+00	2.45E-02
		Cs-134	<1.85E-02	0.00E+00	1.85E-02
		Cs-137	<1.29E-02	0.00E+00	1.29E-02
		Be-7	<1.15E-01	0.00E+00	1.15E-01
		K-40	6.50E-01	2.09E-01	1.80E-01
481065	7/23/2018 - 7/30/2018	I-131	<2.37E-02	0.00E+00	2.37E-02
		Cs-134	<1.88E-02	0.00E+00	1.88E-02
		Cs-137	<1.75E-02	0.00E+00	1.75E-02
		Be-7	<1.25E-01	0.00E+00	1.25E-01
		K-40	5.64E-01	2.30E-01	2.78E-01
481509	7/30/2018 - 8/6/2018	I-131	<2.19E-02	0.00E+00	2.19E-02
		Cs-134	<1.93E-02	0.00E+00	1.93E-02
		Cs-137	<1.90E-02	0.00E+00	1.90E-02
		Be-7	<1.18E-01	0.00E+00	1.18E-01
		K-40	3.98E-01	1.71E-01	1.85E-01



# HARRIS Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: AIR RADIOIODINE Concentration (Activity): pCi/m3

Sample Point 91 [ INDICATOR - ENE @ 1.6 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
481942	8/6/2018 - 8/13/2018	I-131	<1.79E-02	0.00E+00	1.79E-02
		Cs-134	<1.64E-02	0.00E+00	1.64E-02
		Cs-137	<1.69E-02	0.00E+00	1.69E-02
		Be-7	<1.15E-01	0.00E+00	1.15E-01
		K-40	4.17E-01	1.74E-01	1.75E-01
482474	8/13/2018 - 8/20/2018	I-131	<1.68E-02	0.00E+00	1.68E-02
		Cs-134	<1.53E-02	0.00E+00	1.53E-02
		Cs-137	<1.32E-02	0.00E+00	1.32E-02
		Be-7	<9.87E-02	0.00E+00	9.87E-02
		K-40	1.98E-01	1.46E-01	2.06E-01
482799	8/20/2018 - 8/27/2018	I-131	<1.85E-02	0.00E+00	1.85E-02
		Cs-134	<1.83E-02	0.00E+00	1.83E-02
		Cs-137	<1.33E-02	0.00E+00	1.33E-02
		Be-7	<8.45E-02	0.00E+00	8.45E-02
		K-40	6.28E-01	1.84E-01	3.40E-02
483424	8/27/2018 - 9/4/2018	I-131	<2.14E-02	0.00E+00	2.14E-02
		Cs-134	<1.42E-02	0.00E+00	1.42E-02
		Cs-137	<1.56E-02	0.00E+00	1.56E-02
		Be-7	<9.96E-02	0.00E+00	9.96E-02
		K-40	<2.95E-01	0.00E+00	2.95E-01
483999	9/4/2018 - 9/10/2018	I-131	<2.21E-02	0.00E+00	2.21E-02
		Cs-134	<1.82E-02	0.00E+00	1.82E-02
		Cs-137	<1.47E-02	0.00E+00	1.47E-02
		Be-7	<1.47E-01	0.00E+00	1.47E-01
		K-40	4.76E-01	2.34E-01	2.96E-01
484169	9/10/2018 - 9/17/2018	I-131	<3.86E-02	0.00E+00	3.86E-02
		Cs-134	<1.67E-02	0.00E+00	1.67E-02
		Cs-137	<1.91E-02	0.00E+00	1.91E-02
		Be-7	<1.33E-01	0.00E+00	1.33E-01
		K-40	5.31E-01	1.85E-01	1.55E-01
485020	9/17/2018 - 9/24/2018	I-131	<2.31E-02	0.00E+00	2.31E-02
		Cs-134	<1.36E-02	0.00E+00	1.36E-02
		Cs-137	<1.65E-02	0.00E+00	1.65E-02
		Be-7	<1.26E-01	0.00E+00	1.26E-01
		K-40	6.45E-01	2.07E-01	1.72E-01
485250	9/24/2018 - 10/1/2018	I-131	<3.02E-02	0.00E+00	3.02E-02
		Cs-134	<1.60E-02	0.00E+00	1.60E-02
		Cs-137	<1.95E-02	0.00E+00	1.95E-02
		Be-7	<1.11E-01	0.00E+00	1.11E-01
		K-40	4.94E-01	1.68E-01	1.17E-01
486144	10/1/2018 - 10/8/2018	I-131	<2.20E-02	0.00E+00	2.20E-02
		Cs-134	<1.68E-02	0.00E+00	1.68E-02
		Cs-137	<1.78E-02	0.00E+00	1.78E-02
		Be-7	<1.39E-01	0.00E+00	1.39E-01
		K-40	4.47E-01	1.71E-01	1.40E-01
486690	10/8/2018 - 10/15/2018	I-131	<2.35E-02	0.00E+00	2.35E-02
		Cs-134	<1.66E-02	0.00E+00	1.67E-02
		Cs-137	<1.74E-02	0.00E+00	1.74E-02
		Be-7	<1.27E-01	0.00E+00	1.27E-01
		K-40	5.37E-01	1.85E-01	1.53E-01



# HARRIS Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: AIR RADIOIODINE Concentration (Activity): pCi/m3

Sample Point 91 [ INDICATOR - ENE @ 1.6 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
487729	10/15/2018 - 10/22/2018	I-131	<2.45E-02	0.00E+00	2.45E-02
		Cs-134	<2.10E-02	0.00E+00	2.10E-02
		Cs-137	<1.93E-02	0.00E+00	1.93E-02
		Be-7	<1.32E-01	0.00E+00	1.32E-01
		K-40	4.72E-01	1.87E-01	1.92E-01
487976	10/22/2018 - 10/29/2018	I-131	<2.28E-02	0.00E+00	2.28E-02
		Cs-134	<1.72E-02	0.00E+00	1.72E-02
		Cs-137	<1.66E-02	0.00E+00	1.66E-02
		Be-7	<1.14E-01	0.00E+00	1.14E-01
		K-40	3.98E-01	1.68E-01	1.77E-01
488461	10/29/2018 - 11/5/2018	I-131	<2.34E-02	0.00E+00	2.34E-02
		Cs-134	<1.68E-02	0.00E+00	1.68E-02
		Cs-137	<1.36E-02	0.00E+00	1.36E-02
		Be-7	<1.39E-01	0.00E+00	1.39E-01
		K-40	6.07E-01	2.20E-01	2.25E-01
488837	11/5/2018 - 11/12/2018	I-131	<2.28E-02	0.00E+00	2.28E-02
		Cs-134	<1.15E-02	0.00E+00	1.15E-02
		Cs-137	<1.91E-02	0.00E+00	1.91E-02
		Be-7	<1.02E-01	0.00E+00	1.02E-01
		K-40	4.12E-01	1.72E-01	1.76E-01
489141	11/12/2018 - 11/19/2018	I-131	<1.46E-02	0.00E+00	1.46E-02
		Cs-134	<7.36E-03	0.00E+00	7.36E-03
		Cs-137	<6.22E-03	0.00E+00	6.22E-03
		Be-7	<4.87E-02	0.00E+00	4.87E-02
		K-40	3.97E-01	9.69E-02	1.05E-01
489726	11/19/2018 - 11/26/2018	I-131	<2.45E-02	0.00E+00	2.45E-02
		Cs-134	<1.79E-02	0.00E+00	1.79E-02
		Cs-137	<1.75E-02	0.00E+00	1.75E-02
		Be-7	<1.18E-01	0.00E+00	1.18E-01
		K-40	4.63E-01	1.89E-01	2.12E-01
490142	11/26/2018 - 12/3/2018	I-131	<2.03E-02	0.00E+00	2.03E-02
		Cs-134	<1.67E-02	0.00E+00	1.67E-02
		Cs-137	<1.10E-02	0.00E+00	1.10E-02
		Be-7	<1.13E-01	0.00E+00	1.13E-01
		K-40	<3.61E-01	0.00E+00	3.61E-01
490788	12/3/2018 - 12/11/2018	I-131	<2.37E-02	0.00E+00	2.37E-02
		Cs-134	<1.52E-02	0.00E+00	1.52E-02
		Cs-137	<1.52E-02	0.00E+00	1.52E-02
		Be-7	<9.04E-02	0.00E+00	9.04E-02
		K-40	5.41E-01	1.80E-01	1.63E-01
491168	12/11/2018 - 12/18/2018	I-131	<2.78E-02	0.00E+00	2.78E-02
		Cs-134	<1.34E-02	0.00E+00	1.34E-02
		Cs-137	<1.42E-02	0.00E+00	1.42E-02
		Be-7	<9.49E-02	0.00E+00	9.49E-02
		K-40	2.23E-01	1.17E-01	1.17E-01
491472	12/18/2018 - 12/26/2018	I-131	<3.20E-02	0.00E+00	3.20E-02
		Cs-134	<1.22E-02	0.00E+00	1.22E-02
		Cs-137	<1.62E-02	0.00E+00	1.61E-02
		Be-7	<1.19E-01	0.00E+00	1.19E-01
		K-40	3.67E-01	1.89E-01	2.57E-01



# HARRIS Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: AIR RADIOIODINE Concentration (Activity): pCi/m3

Sample Point 91 [ INDICATOR - ENE @ 1.6 miles ]

Sample ID:	491737	Sample Dates:	12/26/2018 - 12/31/2018	Nuclide	Activity	2 Sigma Error	MDA
				I-131	<4.32E-02	0.00E+00	4.32E-02
				Cs-134	<2.90E-02	0.00E+00	2.90E-02
				Cs-137	<2.04E-02	0.00E+00	2.04E-02
				Be-7	<2.03E-01	0.00E+00	2.03E-01
				K-40	7.11E-01	2.75E-01	2.72E-01

Media Type: AQUATIC VEGETATION Concentration (Activity): pCi/kg wet

Sample Point 26 [ INDICATOR - S @ 4.7 miles ]

Sample ID:	486133	Sample Dates:	10/1/2018 - 10/1/2018	ALLIWEED	Nuclide	Activity	2 Sigma Error	MDA
					Mn-54	<1.75E+01	0.00E+00	1.75E+01
					Co-58	<2.32E+01	0.00E+00	2.32E+01
					Fe-59	<4.25E+01	0.00E+00	4.25E+01
					Co-60	<1.66E+01	0.00E+00	1.66E+01
					Zn-65	<4.73E+01	0.00E+00	4.73E+01
					Zr-95	<3.14E+01	0.00E+00	3.14E+01
					Nb-95	<1.84E+01	0.00E+00	1.84E+01
					I-131	<2.88E+01	0.00E+00	2.88E+01
					Cs-134	<2.60E+01	0.00E+00	2.60E+01
					Cs-137	<1.67E+01	0.00E+00	1.67E+01
					BaLa-140	<2.88E+01	0.00E+00	2.88E+01
					Be-7	<2.27E+02	0.00E+00	2.27E+02
					K-40	3.87E+03	6.58E+02	4.30E+02

Sample Point 41 [ INDICATOR - S @ 3.8 miles ]

Sample ID:	486134	Sample Dates:	10/1/2018 - 10/1/2018	LYNGBYA	Nuclide	Activity	2 Sigma Error	MDA
					Mn-54	<9.37E+00	0.00E+00	9.37E+00
					Co-58	<8.88E+00	0.00E+00	8.88E+00
					Fe-59	<1.61E+01	0.00E+00	1.61E+01
					Co-60	<1.63E+01	0.00E+00	1.63E+01
					Zn-65	<3.16E+01	0.00E+00	3.16E+01
					Zr-95	<2.42E+01	0.00E+00	2.42E+01
					Nb-95	<1.42E+01	0.00E+00	1.42E+01
					I-131	<1.82E+01	0.00E+00	1.82E+01
					Cs-134	<1.39E+01	0.00E+00	1.39E+01
					Cs-137	8.31E+00	7.02E+00	1.02E+01
					BaLa-140	<1.91E+01	0.00E+00	1.91E+01
					Be-7	5.84E+02	1.38E+02	1.32E+02
					K-40	4.17E+02	1.79E+02	2.22E+02

Sample Point 61 [ CONTROL - E @ 2.5 miles ]

Sample ID:	486135	Sample Dates:	10/1/2018 - 10/1/2018	HYDRILLA	Nuclide	Activity	2 Sigma Error	MDA
					Mn-54	<1.68E+01	0.00E+00	1.68E+01
					Co-58	<1.55E+01	0.00E+00	1.55E+01
					Fe-59	<1.94E+01	0.00E+00	1.94E+01
					Co-60	<1.49E+01	0.00E+00	1.49E+01
					Zn-65	<3.29E+01	0.00E+00	3.29E+01
					Zr-95	<2.70E+01	0.00E+00	2.70E+01
					Nb-95	<1.65E+01	0.00E+00	1.65E+01
					I-131	<1.81E+01	0.00E+00	1.81E+01
					Cs-134	<1.60E+01	0.00E+00	1.60E+01
					Cs-137	<1.44E+01	0.00E+00	1.44E+01
					BaLa-140	<2.32E+01	0.00E+00	2.32E+01
					Be-7	2.74E+02	1.15E+02	1.47E+02
					K-40	2.55E+03	4.25E+02	2.15E+02

Media Type: CROPS Concentration (Activity): pCi/kg wet

Sample Point 97 [ CONTROL - NW @ 19.1 miles ]

Sample ID:	465982	Sample Dates:	1/8/2018 - 1/8/2018	KALE	Nuclide	Activity	2 Sigma Error	MDA
					I-131	<1.88E+01	0.00E+00	1.88E+01
					Cs-134	<2.11E+01	0.00E+00	2.11E+01
					Cs-137	<1.62E+01	0.00E+00	1.62E+01
					Be-7	<1.85E+02	0.00E+00	1.85E+02



# HARRIS Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: CROPS Concentration (Activity): pCi/kg wet

Sample Point 97 [ CONTROL - NW @ 19.1 miles ]

Sample ID:	Sample Dates:	Sample Type:	Nuclide	Activity	2 Sigma Error	MDA
465982	1/8/2018 - 1/8/2018	KALE	K-40	6.36E+03	7.97E+02	1.78E+02
465984	1/8/2018 - 1/8/2018	LETTUCE	I-131	<1.80E+01	0.00E+00	1.80E+01
			Cs-134	<2.14E+01	0.00E+00	2.14E+01
			Cs-137	<1.98E+01	0.00E+00	1.98E+01
			Be-7	<1.05E+02	0.00E+00	1.05E+02
			K-40	2.60E+03	4.53E+02	2.30E+02
465983	1/8/2018 - 1/8/2018	MUSTGREENS	I-131	<1.26E+01	0.00E+00	1.26E+01
			Cs-134	<1.54E+01	0.00E+00	1.54E+01
			Cs-137	<1.47E+01	0.00E+00	1.47E+01
			Be-7	<9.46E+01	0.00E+00	9.46E+01
			K-40	4.16E+03	5.48E+02	2.98E+02
467636	2/12/2018 - 2/12/2018	ARUGULA	I-131	<1.91E+01	0.00E+00	1.91E+01
			Cs-134	<1.40E+01	0.00E+00	1.40E+01
			Cs-137	<1.36E+01	0.00E+00	1.36E+01
			Be-7	<1.03E+02	0.00E+00	1.03E+02
			K-40	2.89E+03	4.30E+02	1.71E+02
467637	2/12/2018 - 2/12/2018	COLLARDS	I-131	<2.11E+01	0.00E+00	2.11E+01
			Cs-134	<1.90E+01	0.00E+00	1.90E+01
			Cs-137	<1.63E+01	0.00E+00	1.63E+01
			Be-7	1.58E+02	1.10E+02	1.66E+02
			K-40	3.48E+03	5.20E+02	2.36E+02
467638	2/12/2018 - 2/12/2018	KALE	I-131	<3.28E+01	0.00E+00	3.28E+01
			Cs-134	<2.61E+01	0.00E+00	2.61E+01
			Cs-137	<2.15E+01	0.00E+00	2.15E+01
			Be-7	2.48E+02	1.74E+02	2.64E+02
			K-40	4.04E+03	6.71E+02	3.77E+02
470584	3/12/2018 - 3/12/2018	CHARD	I-131	<4.78E+01	0.00E+00	4.78E+01
			Cs-134	<2.78E+01	0.00E+00	2.78E+01
			Cs-137	<2.88E+01	0.00E+00	2.88E+01
			Be-7	<2.50E+02	0.00E+00	2.50E+02
			K-40	3.81E+03	6.97E+02	2.61E+02
470583	3/12/2018 - 3/12/2018	ARUGULA	I-131	<4.27E+01	0.00E+00	4.27E+01
			Cs-134	<2.35E+01	0.00E+00	2.35E+01
			Cs-137	<3.16E+01	0.00E+00	3.16E+01
			Be-7	<2.64E+02	0.00E+00	2.64E+02
			K-40	3.17E+03	7.16E+02	6.39E+02
470585	3/12/2018 - 3/12/2018	KALE	I-131	<4.58E+01	0.00E+00	4.58E+01
			Cs-134	<3.09E+01	0.00E+00	3.09E+01
			Cs-137	<4.20E+01	0.00E+00	4.20E+01
			Be-7	<3.18E+02	0.00E+00	3.18E+02
			K-40	4.70E+03	9.33E+02	7.03E+02
472967	4/9/2018 - 4/9/2018	KALE	I-131	<4.69E+01	0.00E+00	4.69E+01
			Cs-134	<2.82E+01	0.00E+00	2.82E+01
			Cs-137	<3.01E+01	0.00E+00	3.01E+01
			Be-7	<2.31E+02	0.00E+00	2.31E+02
			K-40	4.12E+03	6.75E+02	3.72E+02
472968	4/9/2018 - 4/9/2018	LETTUCE	I-131	<3.93E+01	0.00E+00	3.93E+01
			Cs-134	<2.04E+01	0.00E+00	2.04E+01



# HARRIS Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: CROPS Concentration (Activity): pCi/kg wet

Sample Point 97 [ CONTROL - NW @ 19.1 miles ]

Sample ID:	Sample Dates:	Vegetable	Nuclide	Activity	2 Sigma Error	MDA
472968	4/9/2018 - 4/9/2018	LETTUCE	Cs-137	<2.71E+01	0.00E+00	2.71E+01
			Be-7	<2.69E+02	0.00E+00	2.69E+02
			K-40	1.57E+03	4.33E+02	2.74E+02
472969	4/9/2018 - 4/9/2018	PARSLEY	I-131	<2.24E+01	0.00E+00	2.24E+01
			Cs-134	<3.86E+01	0.00E+00	3.86E+01
			Cs-137	<3.51E+01	0.00E+00	3.51E+01
			Be-7	<1.90E+02	0.00E+00	1.90E+02
			K-40	4.23E+03	7.81E+02	5.00E+02
474883	5/7/2018 - 5/7/2018	ARUGULA	I-131	<1.59E+01	0.00E+00	1.59E+01
			Cs-134	<1.68E+01	0.00E+00	1.68E+01
			Cs-137	<1.55E+01	0.00E+00	1.55E+01
			Be-7	<1.38E+02	0.00E+00	1.38E+02
			K-40	3.95E+03	5.43E+02	2.18E+02
474884	5/7/2018 - 5/7/2018	CHARD	I-131	<1.49E+01	0.00E+00	1.49E+01
			Cs-134	<1.66E+01	0.00E+00	1.66E+01
			Cs-137	<2.08E+01	0.00E+00	2.08E+01
			Be-7	<1.15E+02	0.00E+00	1.15E+02
			K-40	2.47E+03	4.43E+02	2.88E+02
474885	5/7/2018 - 5/7/2018	LETTUCE	I-131	<2.20E+01	0.00E+00	2.20E+01
			Cs-134	<2.62E+01	0.00E+00	2.62E+01
			Cs-137	<2.48E+01	0.00E+00	2.48E+01
			Be-7	<1.94E+02	0.00E+00	1.94E+02
			K-40	1.83E+03	4.25E+02	5.89E+01
477369	6/4/2018 - 6/4/2018	CABBAGE	I-131	<1.36E+01	0.00E+00	1.36E+01
			Cs-134	<1.46E+01	0.00E+00	1.46E+01
			Cs-137	<1.65E+01	0.00E+00	1.65E+01
			Be-7	1.29E+01	5.27E+01	9.62E+01
			K-40	1.79E+03	3.28E+02	1.44E+02
477370	6/4/2018 - 6/4/2018	CHARD	I-131	<1.30E+01	0.00E+00	1.30E+01
			Cs-134	<1.33E+01	0.00E+00	1.33E+01
			Cs-137	<1.36E+01	0.00E+00	1.36E+01
			Be-7	2.17E+02	1.20E+02	1.77E+02
			K-40	1.69E+03	3.13E+02	1.46E+02
477371	6/4/2018 - 6/4/2018	BOKCHOY	I-131	<1.12E+01	0.00E+00	1.12E+01
			Cs-134	<1.44E+01	0.00E+00	1.44E+01
			Cs-137	<1.98E+01	0.00E+00	1.98E+01
			Be-7	<1.05E+02	0.00E+00	1.05E+02
			K-40	2.66E+03	4.11E+02	2.04E+02
479051	7/2/2018 - 7/2/2018	CABBAGE	I-131	<1.65E+01	0.00E+00	1.65E+01
			Cs-134	<1.28E+01	0.00E+00	1.28E+01
			Cs-137	<1.60E+01	0.00E+00	1.60E+01
			Be-7	<6.81E+01	0.00E+00	6.81E+01
			K-40	1.37E+03	2.71E+02	1.20E+02
479052	7/2/2018 - 7/2/2018	CUCUMBERS	I-131	<1.43E+01	0.00E+00	1.43E+01
			Cs-134	<1.11E+01	0.00E+00	1.11E+01
			Cs-137	<1.39E+01	0.00E+00	1.39E+01
			Be-7	<5.90E+01	0.00E+00	5.90E+01
			K-40	9.46E+02	2.12E+02	1.43E+02



# HARRIS Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: CROPS Concentration (Activity): pCi/kg wet

Sample Point 97 [ CONTROL - NW @ 19.1 miles ]

Sample ID:	Sample Dates:	Crop Type:	Nuclide	Activity	2 Sigma Error	MDA
479053	7/2/2018 - 7/2/2018	SQUASH	I-131	<1.58E+01	0.00E+00	1.58E+01
			Cs-134	<1.19E+01	0.00E+00	1.19E+01
			Cs-137	<1.13E+01	0.00E+00	1.13E+01
			Be-7	<9.98E+01	0.00E+00	9.98E+01
			K-40	1.39E+03	2.57E+02	1.52E+02
481946	8/7/2018 - 8/7/2018	ONIONS	I-131	<1.79E+01	0.00E+00	1.79E+01
			Cs-134	<1.41E+01	0.00E+00	1.41E+01
			Cs-137	<1.12E+01	0.00E+00	1.12E+01
			Be-7	<8.58E+01	0.00E+00	8.58E+01
			K-40	1.60E+03	2.91E+02	1.46E+02
481947	8/7/2018 - 8/7/2018	PEPPERS	I-131	<1.50E+01	0.00E+00	1.50E+01
			Cs-134	<1.22E+01	0.00E+00	1.22E+01
			Cs-137	<1.09E+01	0.00E+00	1.09E+01
			Be-7	<8.57E+01	0.00E+00	8.57E+01
			K-40	1.90E+03	3.14E+02	1.50E+02
481948	8/7/2018 - 8/7/2018	TOMATOES	I-131	<1.67E+01	0.00E+00	1.67E+01
			Cs-134	<1.22E+01	0.00E+00	1.22E+01
			Cs-137	<8.71E+00	0.00E+00	8.71E+00
			Be-7	<8.54E+01	0.00E+00	8.54E+01
			K-40	1.34E+03	2.56E+02	1.58E+02
484003	9/10/2018 - 9/10/2018	MIXEDCROPS	I-131	<1.17E+01	0.00E+00	1.17E+01
			Cs-134	<1.12E+01	0.00E+00	1.12E+01
			Cs-137	<1.03E+01	0.00E+00	1.03E+01
			Be-7	<9.09E+01	0.00E+00	9.09E+01
			K-40	1.38E+03	3.01E+02	2.67E+02
486148	10/8/2018 - 10/8/2018	MIXEDCROPS	I-131	<1.07E+01	0.00E+00	1.07E+01
			Cs-134	<1.54E+01	0.00E+00	1.54E+01
			Cs-137	<1.44E+01	0.00E+00	1.44E+01
			Be-7	5.56E+01	7.25E+01	1.19E+02
			K-40	2.26E+03	4.10E+02	3.18E+02
488838	11/5/2018 - 11/5/2018	MIXEDCROPS	I-131	<1.17E+01	0.00E+00	1.17E+01
			Cs-134	<1.39E+01	0.00E+00	1.39E+01
			Cs-137	<1.41E+01	0.00E+00	1.41E+01
			Be-7	7.70E+01	8.69E+01	1.41E+02
			K-40	2.60E+03	3.98E+02	1.83E+02
490789	12/3/2018 - 12/3/2018	MIXEDCROPS	I-131	<1.47E+01	0.00E+00	1.47E+01
			Cs-134	<1.90E+01	0.00E+00	1.90E+01
			Cs-137	<1.36E+01	0.00E+00	1.36E+01
			Be-7	<1.29E+02	0.00E+00	1.29E+02
			K-40	2.46E+03	4.15E+02	3.66E+01

Media Type: DRINKING WATER Concentration (Activity): pCi/l

Sample Point 46 [ INDICATOR - SSE @ 17.2 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
466184	12/26/2017 - 1/22/2018	Beta	5.15E+00	1.12E+00	1.58E+00
		Mn-54	<4.28E+00	0.00E+00	4.28E+00
		Co-58	<3.43E+00	0.00E+00	3.43E+00
		Fe-59	<7.56E+00	0.00E+00	7.56E+00
		Co-60	<3.51E+00	0.00E+00	3.51E+00
		Zn-65	<1.05E+01	0.00E+00	1.05E+01
		Zr-95	<5.66E+00	0.00E+00	5.66E+00
		Nb-95	<4.75E+00	0.00E+00	4.75E+00
		I-131	<9.63E+00	0.00E+00	9.63E+00



# HARRIS Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: DRINKING WATER Concentration (Activity): pCi/l

Sample Point 46 [ INDICATOR - SSE @ 17.2 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
466184	12/26/2017 - 1/22/2018	Cs-134	<2.93E+00	0.00E+00	2.93E+00
		Cs-137	<3.87E+00	0.00E+00	3.87E+00
		BaLa-140	<1.12E+01	0.00E+00	1.12E+01
		Be-7	<4.37E+01	0.00E+00	4.37E+01
		K-40	4.65E+01	2.74E+01	3.09E+01
		H3DW	<-4.5E+01	0.00E+00	1.78E+02

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
468752	1/22/2018 - 2/19/2018	Beta	4.78E+00	1.07E+00	1.52E+00
		Mn-54	<3.06E+00	0.00E+00	3.06E+00
		Co-58	<1.84E+00	0.00E+00	1.84E+00
		Fe-59	<6.65E+00	0.00E+00	6.65E+00
		Co-60	<2.74E+00	0.00E+00	2.74E+00
		Zn-65	<6.57E+00	0.00E+00	6.57E+00
		Zr-95	<5.29E+00	0.00E+00	5.29E+00
		Nb-95	<3.38E+00	0.00E+00	3.38E+00
		I-131	<1.17E+01	0.00E+00	1.17E+01
		Cs-134	<3.13E+00	0.00E+00	3.13E+00
		Cs-137	<2.96E+00	0.00E+00	2.96E+00
		BaLa-140	<7.63E+00	0.00E+00	7.63E+00
		Be-7	<2.74E+01	0.00E+00	2.74E+01
		K-40	9.14E+01	3.03E+01	2.81E+01
		H3DW	<-2.4E+00	0.00E+00	1.85E+02

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
471708	2/19/2018 - 3/19/2018	Beta	3.92E+00	8.76E-01	1.22E+00
		Mn-54	<3.38E+00	0.00E+00	3.38E+00
		Co-58	<3.76E+00	0.00E+00	3.76E+00
		Fe-59	<1.01E+01	0.00E+00	1.01E+01
		Co-60	<4.22E+00	0.00E+00	4.22E+00
		Zn-65	<8.35E+00	0.00E+00	8.35E+00
		Zr-95	<7.10E+00	0.00E+00	7.10E+00
		Nb-95	<5.23E+00	0.00E+00	5.23E+00
		I-131	<1.19E+01	0.00E+00	1.19E+01
		Cs-134	<4.22E+00	0.00E+00	4.22E+00
		Cs-137	<3.87E+00	0.00E+00	3.87E+00
		BaLa-140	<8.39E+00	0.00E+00	8.39E+00
		Be-7	<4.21E+01	0.00E+00	4.21E+01
		K-40	4.46E+01	2.41E+01	8.63E+00
		H3DW	<-1.3E+02	0.00E+00	1.91E+02

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
473626	3/19/2018 - 4/16/2018	Beta	3.53E+00	9.54E-01	1.38E+00
		Mn-54	<2.57E+00	0.00E+00	2.57E+00
		Co-58	<2.76E+00	0.00E+00	2.76E+00
		Fe-59	<6.82E+00	0.00E+00	6.82E+00
		Co-60	<3.04E+00	0.00E+00	3.04E+00
		Zn-65	<5.87E+00	0.00E+00	5.87E+00
		Zr-95	<6.05E+00	0.00E+00	6.05E+00
		Nb-95	<3.84E+00	0.00E+00	3.84E+00
		I-131	<1.18E+01	0.00E+00	1.18E+01
		Cs-134	<3.32E+00	0.00E+00	3.32E+00
		Cs-137	<3.11E+00	0.00E+00	3.11E+00
		BaLa-140	<5.48E+00	0.00E+00	5.48E+00
		Be-7	<2.77E+01	0.00E+00	2.77E+01
		K-40	<5.47E+01	0.00E+00	5.47E+01
		H3DW	<-7.3E+01	0.00E+00	1.74E+02

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
475207	4/16/2018 - 5/14/2018	Beta	2.48E+00	9.95E-01	1.55E+00
		Mn-54	<2.70E+00	0.00E+00	2.70E+00
		Co-58	<2.66E+00	0.00E+00	2.66E+00
		Fe-59	<7.34E+00	0.00E+00	7.34E+00
		Co-60	<2.95E+00	0.00E+00	2.95E+00
		Zn-65	<4.57E+00	0.00E+00	4.57E+00
		Zr-95	<3.83E+00	0.00E+00	3.83E+00
		Nb-95	<3.60E+00	0.00E+00	3.60E+00





# HARRIS Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: DRINKING WATER Concentration (Activity): pCi/l

Sample Point 46 [ INDICATOR - SSE @ 17.2 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
475207	4/16/2018 - 5/14/2018	I-131	<1.09E+01	0.00E+00	1.09E+01
		Cs-134	<2.46E+00	0.00E+00	2.46E+00
		Cs-137	<2.24E+00	0.00E+00	2.24E+00
		BaLa-140	<5.46E+00	0.00E+00	5.46E+00
		Be-7	<2.41E+01	0.00E+00	2.41E+01
		K-40	8.55E+01	2.92E+01	3.48E+01
		H3DW	<3.76E+01	0.00E+00	1.93E+02
478099	5/14/2018 - 6/11/2018	Beta	2.99E+00	8.92E-01	1.33E+00
		Mn-54	<2.70E+00	0.00E+00	2.70E+00
		Co-58	<3.31E+00	0.00E+00	3.31E+00
		Fe-59	<7.62E+00	0.00E+00	7.62E+00
		Co-60	<3.03E+00	0.00E+00	3.03E+00
		Zn-65	<5.59E+00	0.00E+00	5.59E+00
		Zr-95	<5.69E+00	0.00E+00	5.69E+00
		Nb-95	<4.03E+00	0.00E+00	4.03E+00
		I-131	<1.15E+01	0.00E+00	1.15E+01
		Cs-134	<3.20E+00	0.00E+00	3.20E+00
		Cs-137	<2.52E+00	0.00E+00	2.52E+00
		BaLa-140	<6.45E+00	0.00E+00	6.45E+00
		Be-7	<2.85E+01	0.00E+00	2.85E+01
		K-40	6.06E+01	3.18E+01	4.31E+01
		H3DW	<4.96E+01	0.00E+00	1.89E+02
479873	6/11/2018 - 7/9/2018	Beta	3.17E+00	1.10E+00	1.69E+00
		Mn-54	<2.27E+00	0.00E+00	2.27E+00
		Co-58	<2.70E+00	0.00E+00	2.70E+00
		Fe-59	<7.10E+00	0.00E+00	7.10E+00
		Co-60	<3.21E+00	0.00E+00	3.21E+00
		Zn-65	<5.93E+00	0.00E+00	5.93E+00
		Zr-95	<5.06E+00	0.00E+00	5.06E+00
		Nb-95	<3.68E+00	0.00E+00	3.68E+00
		I-131	<1.13E+01	0.00E+00	1.13E+01
		Cs-134	<2.98E+00	0.00E+00	2.98E+00
		Cs-137	<2.48E+00	0.00E+00	2.48E+00
		BaLa-140	<9.60E+00	0.00E+00	9.60E+00
		Be-7	<2.70E+01	0.00E+00	2.70E+01
		K-40	<4.39E+01	0.00E+00	4.39E+01
		H3DW	<1.78E+01	0.00E+00	1.81E+02
481952	7/9/2018 - 8/6/2018	Beta	2.51E+00	1.15E+00	1.84E+00
		Mn-54	<2.28E+00	0.00E+00	2.28E+00
		Co-58	<2.44E+00	0.00E+00	2.44E+00
		Fe-59	<4.25E+00	0.00E+00	4.25E+00
		Co-60	<2.39E+00	0.00E+00	2.39E+00
		Zn-65	<4.60E+00	0.00E+00	4.60E+00
		Zr-95	<3.94E+00	0.00E+00	3.94E+00
		Nb-95	<3.01E+00	0.00E+00	3.01E+00
		I-131	<1.15E+01	0.00E+00	1.15E+01
		Cs-134	<2.42E+00	0.00E+00	2.42E+00
		Cs-137	<1.97E+00	0.00E+00	1.97E+00
		BaLa-140	<8.32E+00	0.00E+00	8.32E+00
		Be-7	<2.69E+01	0.00E+00	2.69E+01
		K-40	3.14E+01	2.19E+01	3.29E+01
		H3DW	<1.67E+01	0.00E+00	1.88E+02
484009	8/6/2018 - 9/4/2018	Beta	4.63E+00	8.96E-01	1.21E+00
		Mn-54	<3.14E+00	0.00E+00	3.14E+00
		Co-58	<4.01E+00	0.00E+00	4.01E+00
		Fe-59	<8.07E+00	0.00E+00	8.07E+00
		Co-60	<2.79E+00	0.00E+00	2.79E+00
		Zn-65	<3.98E+00	0.00E+00	3.98E+00
		Zr-95	<5.45E+00	0.00E+00	5.45E+00



# HARRIS Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: DRINKING WATER Concentration (Activity): pCi/l

Sample Point 46 [ INDICATOR - SSE @ 17.2 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
484009	8/6/2018 - 9/4/2018	Nb-95	<4.66E+00	0.00E+00	4.66E+00
		I-131	<1.19E+01	0.00E+00	1.19E+01
		Cs-134	<3.61E+00	0.00E+00	3.61E+00
		Cs-137	<3.04E+00	0.00E+00	3.04E+00
		BaLa-140	<1.11E+01	0.00E+00	1.11E+01
		Be-7	<2.75E+01	0.00E+00	2.75E+01
		K-40	<5.41E+01	0.00E+00	5.41E+01
		H3DW	<3.89E+01	0.00E+00	1.92E+02
		485254	9/4/2018 - 10/1/2018	Beta	3.09E+00
Mn-54	<3.14E+00			0.00E+00	3.14E+00
Co-58	<2.98E+00			0.00E+00	2.98E+00
Fe-59	<7.72E+00			0.00E+00	7.72E+00
Co-60	<3.05E+00			0.00E+00	3.05E+00
Zn-65	<6.62E+00			0.00E+00	6.62E+00
Zr-95	<3.80E+00			0.00E+00	3.80E+00
Nb-95	<3.34E+00			0.00E+00	3.34E+00
I-131	<1.09E+01			0.00E+00	1.09E+01
Cs-134	<3.24E+00			0.00E+00	3.24E+00
Cs-137	<3.75E+00			0.00E+00	3.75E+00
BaLa-140	<1.08E+01			0.00E+00	1.08E+01
Be-7	<2.95E+01			0.00E+00	2.95E+01
K-40	<5.76E+01			0.00E+00	5.76E+01
H3DW	<-7.1E+00			0.00E+00	1.95E+02
488465	10/1/2018 - 10/29/2018	Beta	3.18E+00	9.60E-01	1.43E+00
		Mn-54	<2.90E+00	0.00E+00	2.90E+00
		Co-58	<2.96E+00	0.00E+00	2.96E+00
		Fe-59	<4.61E+00	0.00E+00	4.61E+00
		Co-60	<2.50E+00	0.00E+00	2.50E+00
		Zn-65	<5.18E+00	0.00E+00	5.18E+00
		Zr-95	<5.08E+00	0.00E+00	5.08E+00
		Nb-95	<3.23E+00	0.00E+00	3.23E+00
		I-131	<1.17E+01	0.00E+00	1.17E+01
		Cs-134	<2.76E+00	0.00E+00	2.76E+00
		Cs-137	<2.32E+00	0.00E+00	2.32E+00
		BaLa-140	<7.48E+00	0.00E+00	7.48E+00
		Be-7	<2.83E+01	0.00E+00	2.83E+01
		K-40	3.39E+01	3.28E+01	5.22E+01
		H3DW	<4.05E+01	0.00E+00	1.90E+02
490146	10/29/2018 - 11/26/2018	Beta	3.43E+00	9.43E-01	1.37E+00
		Mn-54	<2.89E+00	0.00E+00	2.89E+00
		Co-58	<3.07E+00	0.00E+00	3.07E+00
		Fe-59	<7.31E+00	0.00E+00	7.31E+00
		Co-60	<2.90E+00	0.00E+00	2.90E+00
		Zn-65	<4.90E+00	0.00E+00	4.90E+00
		Zr-95	<5.44E+00	0.00E+00	5.44E+00
		Nb-95	<3.60E+00	0.00E+00	3.60E+00
		I-131	<1.14E+01	0.00E+00	1.14E+01
		Cs-134	<2.76E+00	0.00E+00	2.76E+00
		Cs-137	<3.42E+00	0.00E+00	3.42E+00
		BaLa-140	<6.63E+00	0.00E+00	6.63E+00
		Be-7	<2.60E+01	0.00E+00	2.60E+01
		K-40	5.98E+01	2.80E+01	3.13E+01
		H3DW	<-2.4E+00	0.00E+00	1.88E+02
491741	11/26/2018 - 12/26/2018	Beta	2.34E+00	8.39E-01	1.29E+00
		Mn-54	<1.00E+00	0.00E+00	1.00E+00
		Co-58	<1.12E+00	0.00E+00	1.12E+00
		Fe-59	<2.44E+00	0.00E+00	2.44E+00
		Co-60	<9.91E-01	0.00E+00	9.91E-01
		Zn-65	<1.96E+00	0.00E+00	1.96E+00



# HARRIS Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: DRINKING WATER Concentration (Activity): pCi/l

Sample Point 46 [ INDICATOR - SSE @ 17.2 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
491741	11/26/2018 - 12/26/2018	Zr-95	<2.19E+00	0.00E+00	2.19E+00
		Nb-95	<1.76E+00	0.00E+00	1.76E+00
		I-131	<9.74E+00	0.00E+00	9.74E+00
		Cs-134	<1.11E+00	0.00E+00	1.11E+00
		Cs-137	<9.11E-01	0.00E+00	9.11E-01
		BaLa-140	<3.66E+00	0.00E+00	3.66E+00
		Be-7	<1.09E+01	0.00E+00	1.09E+01
		K-40	6.96E+01	1.24E+01	1.30E+01
		H3DW	<-6.9E+01	0.00E+00	1.94E+02

Sample Point 51 [ INDICATOR - -- @ 0 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
466970	12/26/2017 - 1/22/2018	Beta	4.62E+00	1.05E+00	1.50E+00
		Mn-54	<2.76E+00	0.00E+00	2.76E+00
		Co-58	<3.70E+00	0.00E+00	3.70E+00
		Fe-59	<8.78E+00	0.00E+00	8.78E+00
		Co-60	<2.62E+00	0.00E+00	2.62E+00
		Zn-65	<5.59E+00	0.00E+00	5.59E+00
		Zr-95	<6.88E+00	0.00E+00	6.88E+00
		Nb-95	<4.72E+00	0.00E+00	4.72E+00
		I-131	<1.18E+01	0.00E+00	1.18E+01
		Cs-134	<4.56E+00	0.00E+00	4.56E+00
		Cs-137	<3.24E+00	0.00E+00	3.24E+00
		BaLa-140	<9.08E+00	0.00E+00	9.08E+00
		Be-7	<2.59E+01	0.00E+00	2.59E+01
		K-40	<5.96E+01	0.00E+00	5.96E+01
		H3DW	6.18E+03	2.39E+02	1.77E+02

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
468753	1/22/2018 - 2/19/2018	Beta	4.46E+00	9.37E-01	1.27E+00
		Mn-54	<3.13E+00	0.00E+00	3.13E+00
		Co-58	<3.79E+00	0.00E+00	3.79E+00
		Fe-59	<6.38E+00	0.00E+00	6.38E+00
		Co-60	<2.83E+00	0.00E+00	2.83E+00
		Zn-65	<5.88E+00	0.00E+00	5.88E+00
		Zr-95	<5.64E+00	0.00E+00	5.64E+00
		Nb-95	<2.87E+00	0.00E+00	2.87E+00
		I-131	<1.17E+01	0.00E+00	1.17E+01
		Cs-134	<2.91E+00	0.00E+00	2.91E+00
		Cs-137	<3.11E+00	0.00E+00	3.11E+00
		BaLa-140	<5.39E+00	0.00E+00	5.39E+00
		Be-7	<2.74E+01	0.00E+00	2.74E+01
		K-40	<5.16E+01	0.00E+00	5.16E+01
		H3DW	3.40E+03	1.93E+02	1.86E+02

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
471709	2/19/2018 - 3/19/2018	Beta	3.88E+00	8.33E-01	1.15E+00
		Mn-54	<2.64E+00	0.00E+00	2.64E+00
		Co-58	<3.01E+00	0.00E+00	3.01E+00
		Fe-59	<6.51E+00	0.00E+00	6.51E+00
		Co-60	<2.63E+00	0.00E+00	2.63E+00
		Zn-65	<6.49E+00	0.00E+00	6.49E+00
		Zr-95	<6.19E+00	0.00E+00	6.19E+00
		Nb-95	<3.75E+00	0.00E+00	3.75E+00
		I-131	<1.13E+01	0.00E+00	1.13E+01
		Cs-134	<3.01E+00	0.00E+00	3.01E+00
		Cs-137	<2.78E+00	0.00E+00	2.78E+00
		BaLa-140	<6.80E+00	0.00E+00	6.80E+00
		Be-7	<2.05E+01	0.00E+00	2.05E+01
		K-40	3.23E+01	2.56E+01	3.87E+01
		H3DW	2.53E+03	1.77E+02	1.91E+02

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
473627	3/19/2018 - 4/16/2018	Beta	3.85E+00	9.30E-01	1.32E+00
		Mn-54	<2.48E+00	0.00E+00	2.48E+00
		Co-58	<4.18E+00	0.00E+00	4.18E+00



# HARRIS Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: DRINKING WATER Concentration (Activity): pCi/l

Sample Point 51 [ INDICATOR - -- @ 0 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
473627	3/19/2018 - 4/16/2018	Fe-59	<1.06E+01	0.00E+00	1.06E+01
		Co-60	<5.05E+00	0.00E+00	5.05E+00
		Zn-65	<8.64E+00	0.00E+00	8.64E+00
		Zr-95	<7.41E+00	0.00E+00	7.41E+00
		Nb-95	<4.99E+00	0.00E+00	4.99E+00
		I-131	<1.18E+01	0.00E+00	1.18E+01
		Cs-134	<5.16E+00	0.00E+00	5.16E+00
		Cs-137	<5.21E+00	0.00E+00	5.21E+00
		BaLa-140	<1.18E+01	0.00E+00	1.18E+01
		Be-7	<3.13E+01	0.00E+00	3.13E+01
		K-40	<5.01E+01	0.00E+00	5.01E+01
		H3DW	2.40E+03	1.68E+02	1.74E+02

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
475208	4/16/2018 - 5/14/2018	Beta	2.61E+00	9.64E-01	1.48E+00
		Mn-54	<2.95E+00	0.00E+00	2.95E+00
		Co-58	<3.47E+00	0.00E+00	3.47E+00
		Fe-59	<5.54E+00	0.00E+00	5.54E+00
		Co-60	<2.41E+00	0.00E+00	2.41E+00
		Zn-65	<5.93E+00	0.00E+00	5.93E+00
		Zr-95	<4.13E+00	0.00E+00	4.13E+00
		Nb-95	<2.30E+00	0.00E+00	2.30E+00
		I-131	<1.18E+01	0.00E+00	1.18E+01
		Cs-134	<3.61E+00	0.00E+00	3.61E+00
		Cs-137	<2.78E+00	0.00E+00	2.78E+00
		BaLa-140	<7.51E+00	0.00E+00	7.51E+00
		Be-7	<2.39E+01	0.00E+00	2.39E+01
		K-40	<4.90E+01	0.00E+00	4.90E+01
		H3DW	2.53E+03	1.78E+02	1.93E+02

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
478100	5/14/2018 - 6/11/2018	Beta	2.61E+00	8.42E-01	1.27E+00
		Mn-54	<2.72E+00	0.00E+00	2.72E+00
		Co-58	<2.49E+00	0.00E+00	2.49E+00
		Fe-59	<7.17E+00	0.00E+00	7.17E+00
		Co-60	<2.13E+00	0.00E+00	2.13E+00
		Zn-65	<8.49E+00	0.00E+00	8.49E+00
		Zr-95	<6.78E+00	0.00E+00	6.78E+00
		Nb-95	<3.87E+00	0.00E+00	3.87E+00
		I-131	<1.18E+01	0.00E+00	1.18E+01
		Cs-134	<2.28E+00	0.00E+00	2.28E+00
		Cs-137	<3.23E+00	0.00E+00	3.23E+00
		BaLa-140	<8.26E+00	0.00E+00	8.26E+00
		Be-7	<3.13E+01	0.00E+00	3.13E+01
		K-40	3.63E+01	2.79E+01	4.07E+01
		H3DW	3.87E+03	2.03E+02	1.89E+02

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
479874	6/11/2018 - 7/9/2018	Beta	2.58E+00	1.03E+00	1.61E+00
		Mn-54	<3.76E+00	0.00E+00	3.76E+00
		Co-58	<3.65E+00	0.00E+00	3.65E+00
		Fe-59	<9.15E+00	0.00E+00	9.15E+00
		Co-60	<3.65E+00	0.00E+00	3.65E+00
		Zn-65	<7.21E+00	0.00E+00	7.21E+00
		Zr-95	<6.13E+00	0.00E+00	6.13E+00
		Nb-95	<5.37E+00	0.00E+00	5.37E+00
		I-131	<1.19E+01	0.00E+00	1.19E+01
		Cs-134	<4.62E+00	0.00E+00	4.62E+00
		Cs-137	<4.03E+00	0.00E+00	4.03E+00
		BaLa-140	<7.23E+00	0.00E+00	7.23E+00
		Be-7	<2.42E+01	0.00E+00	2.42E+01
		K-40	<6.19E+01	0.00E+00	6.19E+01
		H3DW	3.73E+03	1.94E+02	1.81E+02

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
481953	7/9/2018 - 8/6/2018	Beta	2.98E+00	1.12E+00	1.75E+00
		Mn-54	<2.41E+00	0.00E+00	2.41E+00



# HARRIS Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: DRINKING WATER Concentration (Activity): pCi/l

Sample Point 51 [ INDICATOR - -- @ 0 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
481953	7/9/2018 - 8/6/2018	Co-58	<2.55E+00	0.00E+00	2.55E+00
		Fe-59	<6.40E+00	0.00E+00	6.40E+00
		Co-60	<1.68E+00	0.00E+00	1.68E+00
		Zn-65	<5.07E+00	0.00E+00	5.07E+00
		Zr-95	<4.94E+00	0.00E+00	4.94E+00
		Nb-95	<3.52E+00	0.00E+00	3.52E+00
		I-131	<1.15E+01	0.00E+00	1.15E+01
		Cs-134	<2.70E+00	0.00E+00	2.70E+00
		Cs-137	<2.26E+00	0.00E+00	2.26E+00
		BaLa-140	<6.99E+00	0.00E+00	6.99E+00
		Be-7	<2.23E+01	0.00E+00	2.23E+01
		K-40	6.80E+01	2.69E+01	3.42E+01
		H3DW	3.92E+03	2.05E+02	1.89E+02

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
484010	8/6/2018 - 9/4/2018	Beta	3.34E+00	8.17E-01	1.16E+00
		Mn-54	<2.48E+00	0.00E+00	2.48E+00
		Co-58	<3.18E+00	0.00E+00	3.18E+00
		Fe-59	<5.37E+00	0.00E+00	5.37E+00
		Co-60	<2.91E+00	0.00E+00	2.91E+00
		Zn-65	<4.97E+00	0.00E+00	4.97E+00
		Zr-95	<5.52E+00	0.00E+00	5.52E+00
		Nb-95	<3.36E+00	0.00E+00	3.36E+00
		I-131	<1.13E+01	0.00E+00	1.13E+01
		Cs-134	<3.41E+00	0.00E+00	3.41E+00
		Cs-137	<2.81E+00	0.00E+00	2.81E+00
		BaLa-140	<7.65E+00	0.00E+00	7.65E+00
		Be-7	<2.27E+01	0.00E+00	2.27E+01
		K-40	7.28E+01	2.85E+01	3.43E+01
H3DW	3.16E+03	1.92E+02	1.92E+02		

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
485255	9/4/2018 - 10/1/2018	Beta	3.24E+00	1.02E+00	1.54E+00
		Mn-54	<2.50E+00	0.00E+00	2.50E+00
		Co-58	<3.02E+00	0.00E+00	3.02E+00
		Fe-59	<4.89E+00	0.00E+00	4.89E+00
		Co-60	<3.01E+00	0.00E+00	3.01E+00
		Zn-65	<5.33E+00	0.00E+00	5.33E+00
		Zr-95	<5.21E+00	0.00E+00	5.21E+00
		Nb-95	<3.10E+00	0.00E+00	3.10E+00
		I-131	<1.05E+01	0.00E+00	1.05E+01
		Cs-134	<2.69E+00	0.00E+00	2.69E+00
		Cs-137	<1.92E+00	0.00E+00	1.92E+00
		BaLa-140	<6.29E+00	0.00E+00	6.29E+00
		Be-7	<2.23E+01	0.00E+00	2.23E+01
		K-40	<4.11E+01	0.00E+00	4.11E+01
H3DW	2.68E+03	1.82E+02	1.95E+02		

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
488466	10/1/2018 - 10/29/2018	Beta	3.39E+00	9.51E-01	1.40E+00
		Mn-54	<2.72E+00	0.00E+00	2.72E+00
		Co-58	<3.41E+00	0.00E+00	3.41E+00
		Fe-59	<5.62E+00	0.00E+00	5.62E+00
		Co-60	<2.84E+00	0.00E+00	2.84E+00
		Zn-65	<6.66E+00	0.00E+00	6.66E+00
		Zr-95	<5.83E+00	0.00E+00	5.83E+00
		Nb-95	<4.09E+00	0.00E+00	4.09E+00
		I-131	<1.20E+01	0.00E+00	1.20E+01
		Cs-134	<3.96E+00	0.00E+00	3.96E+00
		Cs-137	<2.51E+00	0.00E+00	2.51E+00
		BaLa-140	<8.42E+00	0.00E+00	8.42E+00
		Be-7	<2.13E+01	0.00E+00	2.13E+01
		K-40	<4.31E+01	0.00E+00	4.31E+01
H3DW	2.49E+03	1.77E+02	1.91E+02		

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
490147	10/29/2018 - 11/26/2018	Beta	4.25E+00	9.73E-01	1.36E+00



# HARRIS Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: DRINKING WATER Concentration (Activity): pCi/l

Sample Point 51 [ INDICATOR - -- @ 0 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
490147	10/29/2018 - 11/26/2018	Mn-54	<2.85E+00	0.00E+00	2.85E+00
		Co-58	<3.61E+00	0.00E+00	3.61E+00
		Fe-59	<7.08E+00	0.00E+00	7.08E+00
		Co-60	<2.22E+00	0.00E+00	2.22E+00
		Zn-65	<6.61E+00	0.00E+00	6.61E+00
		Zr-95	<6.15E+00	0.00E+00	6.15E+00
		Nb-95	<3.35E+00	0.00E+00	3.35E+00
		I-131	<1.19E+01	0.00E+00	1.19E+01
		Cs-134	<3.61E+00	0.00E+00	3.61E+00
		Cs-137	<3.16E+00	0.00E+00	3.16E+00
		BaLa-140	<9.24E+00	0.00E+00	9.24E+00
		Be-7	<3.07E+01	0.00E+00	3.07E+01
		K-40	<4.29E+01	0.00E+00	4.29E+01
		H3DW	2.78E+03	1.81E+02	1.87E+02

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
491742	11/26/2018 - 12/26/2018	Beta	2.67E+00	8.48E-01	1.28E+00
		Mn-54	<1.30E+00	0.00E+00	1.30E+00
		Co-58	<2.04E+00	0.00E+00	2.04E+00
		Fe-59	<4.06E+00	0.00E+00	4.06E+00
		Co-60	<1.39E+00	0.00E+00	1.39E+00
		Zn-65	<2.97E+00	0.00E+00	2.97E+00
		Zr-95	<2.74E+00	0.00E+00	2.74E+00
		Nb-95	<2.07E+00	0.00E+00	2.07E+00
		I-131	<1.09E+01	0.00E+00	1.09E+01
		Cs-134	<1.81E+00	0.00E+00	1.81E+00
		Cs-137	<1.48E+00	0.00E+00	1.48E+00
		BaLa-140	<5.70E+00	0.00E+00	5.70E+00
		Be-7	<1.55E+01	0.00E+00	1.55E+01
		K-40	2.70E+01	1.25E+01	1.66E+01
		H3DW	2.87E+03	1.87E+02	1.98E+02

Sample Point 58 [ CONTROL - SW @ 8.47 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
466185	12/26/2017 - 1/22/2018	Beta	4.91E+00	1.11E+00	1.58E+00
		Mn-54	<4.00E+00	0.00E+00	4.00E+00
		Co-58	<4.00E+00	0.00E+00	4.00E+00
		Fe-59	<7.39E+00	0.00E+00	7.39E+00
		Co-60	<2.88E+00	0.00E+00	2.88E+00
		Zn-65	<8.18E+00	0.00E+00	8.19E+00
		Zr-95	<7.61E+00	0.00E+00	7.61E+00
		Nb-95	<5.25E+00	0.00E+00	5.25E+00
		I-131	<1.15E+01	0.00E+00	1.15E+01
		Cs-134	<3.32E+00	0.00E+00	3.32E+00
		Cs-137	<4.22E+00	0.00E+00	4.22E+00
		BaLa-140	<7.82E+00	0.00E+00	7.82E+00
		Be-7	<3.54E+01	0.00E+00	3.54E+01
		K-40	8.82E+01	4.14E+01	5.15E+01
		H3DW	<-3.3E+01	0.00E+00	1.78E+02

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
468754	1/22/2018 - 2/19/2018	Beta	6.57E+00	1.07E+00	1.33E+00
		Mn-54	<2.83E+00	0.00E+00	2.83E+00
		Co-58	<3.29E+00	0.00E+00	3.29E+00
		Fe-59	<6.64E+00	0.00E+00	6.64E+00
		Co-60	<3.14E+00	0.00E+00	3.14E+00
		Zn-65	<5.44E+00	0.00E+00	5.44E+00
		Zr-95	<5.62E+00	0.00E+00	5.62E+00
		Nb-95	<3.86E+00	0.00E+00	3.86E+00
		I-131	<1.02E+01	0.00E+00	1.02E+01
		Cs-134	<3.26E+00	0.00E+00	3.26E+00
		Cs-137	<2.63E+00	0.00E+00	2.63E+00
		BaLa-140	<7.32E+00	0.00E+00	7.32E+00
		Be-7	<2.24E+01	0.00E+00	2.24E+01
		K-40	4.02E+01	2.95E+01	4.34E+01



# HARRIS Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: DRINKING WATER Concentration (Activity): pCi/l

Sample Point 58 [ CONTROL - SW @ 8.47 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
468754	1/22/2018 - 2/19/2018	H3DW	<-3.1E+01	0.00E+00	1.85E+02
471710	2/19/2018 - 3/19/2018	Beta	4.66E+00	9.06E-01	1.22E+00
		Mn-54	<2.85E+00	0.00E+00	2.85E+00
		Co-58	<3.05E+00	0.00E+00	3.05E+00
		Fe-59	<6.00E+00	0.00E+00	6.00E+00
		Co-60	<2.42E+00	0.00E+00	2.42E+00
		Zn-65	<5.59E+00	0.00E+00	5.59E+00
		Zr-95	<5.82E+00	0.00E+00	5.82E+00
		Nb-95	<3.81E+00	0.00E+00	3.81E+00
		I-131	<1.14E+01	0.00E+00	1.14E+01
		Cs-134	<3.38E+00	0.00E+00	3.38E+00
		Cs-137	<2.95E+00	0.00E+00	2.95E+00
		BaLa-140	<8.90E+00	0.00E+00	8.90E+00
		Be-7	<3.17E+01	0.00E+00	3.17E+01
		K-40	1.08E+02	3.64E+01	3.81E+01
		H3DW	<-1.3E+02	0.00E+00	1.91E+02
473628	3/19/2018 - 4/16/2018	Beta	3.87E+00	9.64E-01	1.37E+00
		Mn-54	<3.40E+00	0.00E+00	3.40E+00
		Co-58	<3.23E+00	0.00E+00	3.23E+00
		Fe-59	<6.02E+00	0.00E+00	6.02E+00
		Co-60	<3.49E+00	0.00E+00	3.49E+00
		Zn-65	<7.77E+00	0.00E+00	7.77E+00
		Zr-95	<6.23E+00	0.00E+00	6.23E+00
		Nb-95	<4.38E+00	0.00E+00	4.38E+00
		I-131	<1.15E+01	0.00E+00	1.15E+01
		Cs-134	<3.07E+00	0.00E+00	3.07E+00
		Cs-137	<3.18E+00	0.00E+00	3.18E+00
		BaLa-140	<7.71E+00	0.00E+00	7.71E+00
		Be-7	<2.74E+01	0.00E+00	2.74E+01
		K-40	2.14E+01	2.48E+01	3.98E+01
		H3DW	<3.07E+01	0.00E+00	1.74E+02
475209	4/16/2018 - 5/14/2018	Beta	2.93E+00	1.01E+00	1.54E+00
		Mn-54	<2.52E+00	0.00E+00	2.52E+00
		Co-58	<3.06E+00	0.00E+00	3.06E+00
		Fe-59	<6.15E+00	0.00E+00	6.15E+00
		Co-60	<2.45E+00	0.00E+00	2.45E+00
		Zn-65	<4.77E+00	0.00E+00	4.77E+00
		Zr-95	<5.15E+00	0.00E+00	5.15E+00
		Nb-95	<2.56E+00	0.00E+00	2.56E+00
		I-131	<1.09E+01	0.00E+00	1.09E+01
		Cs-134	<2.35E+00	0.00E+00	2.35E+00
		Cs-137	<2.58E+00	0.00E+00	2.58E+00
		BaLa-140	<7.17E+00	0.00E+00	7.17E+00
		Be-7	<2.83E+01	0.00E+00	2.83E+01
		K-40	4.52E+01	2.53E+01	3.44E+01
		H3DW	<-3.8E+01	0.00E+00	1.93E+02
478101	5/14/2018 - 6/11/2018	Beta	3.23E+00	8.90E-01	1.31E+00
		Mn-54	<2.67E+00	0.00E+00	2.67E+00
		Co-58	<4.14E+00	0.00E+00	4.14E+00
		Fe-59	<8.61E+00	0.00E+00	8.61E+00
		Co-60	<4.98E+00	0.00E+00	4.98E+00
		Zn-65	<9.18E+00	0.00E+00	9.18E+00
		Zr-95	<8.87E+00	0.00E+00	8.87E+00
		Nb-95	<4.92E+00	0.00E+00	4.92E+00
		I-131	<1.12E+01	0.00E+00	1.12E+01
		Cs-134	<3.30E+00	0.00E+00	3.30E+00
		Cs-137	<3.60E+00	0.00E+00	3.60E+00
		BaLa-140	<2.50E+00	0.00E+00	2.50E+00
		Be-7	<3.77E+01	0.00E+00	3.77E+01



# HARRIS Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: DRINKING WATER Concentration (Activity): pCi/l

Sample Point 58 [ CONTROL - SW @ 8.47 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
478101	5/14/2018 - 6/11/2018	K-40	<7.00E+01	0.00E+00	7.00E+01
		H3DW	<1.67E+01	0.00E+00	1.91E+02
479875	6/11/2018 - 7/9/2018	Beta	3.35E+00	1.10E+00	1.68E+00
		Mn-54	<3.18E+00	0.00E+00	3.18E+00
		Co-58	<3.54E+00	0.00E+00	3.54E+00
		Fe-59	<6.55E+00	0.00E+00	6.55E+00
		Co-60	<4.24E+00	0.00E+00	4.24E+00
		Zn-65	<5.18E+00	0.00E+00	5.18E+00
		Zr-95	<4.17E+00	0.00E+00	4.17E+00
		Nb-95	<3.49E+00	0.00E+00	3.49E+00
		I-131	<1.19E+01	0.00E+00	1.19E+01
		Cs-134	<3.79E+00	0.00E+00	3.79E+00
		Cs-137	<3.09E+00	0.00E+00	3.09E+00
		BaLa-140	<7.88E+00	0.00E+00	7.88E+00
		Be-7	<2.85E+01	0.00E+00	2.85E+01
		K-40	<4.51E+01	0.00E+00	4.51E+01
		H3DW	<1.57E+01	0.00E+00	1.82E+02
481954	7/9/2018 - 8/6/2018	Beta	2.68E+00	1.15E+00	1.81E+00
		Mn-54	<1.46E+00	0.00E+00	1.46E+00
		Co-58	<1.74E+00	0.00E+00	1.74E+00
		Fe-59	<3.52E+00	0.00E+00	3.52E+00
		Co-60	<1.52E+00	0.00E+00	1.52E+00
		Zn-65	<3.14E+00	0.00E+00	3.14E+00
		Zr-95	<3.25E+00	0.00E+00	3.25E+00
		Nb-95	<2.52E+00	0.00E+00	2.52E+00
		I-131	<9.26E+00	0.00E+00	9.26E+00
		Cs-134	<1.95E+00	0.00E+00	1.95E+00
		Cs-137	<1.49E+00	0.00E+00	1.49E+00
		BaLa-140	<5.73E+00	0.00E+00	5.73E+00
		Be-7	<1.38E+01	0.00E+00	1.38E+01
		K-40	2.55E+01	1.65E+01	2.50E+01
		H3DW	<2.40E+00	0.00E+00	1.89E+02
484011	8/6/2018 - 9/4/2018	Beta	4.63E+00	8.94E-01	1.21E+00
		Mn-54	<3.15E+00	0.00E+00	3.15E+00
		Co-58	<3.51E+00	0.00E+00	3.51E+00
		Fe-59	<9.62E+00	0.00E+00	9.62E+00
		Co-60	<2.37E+00	0.00E+00	2.37E+00
		Zn-65	<5.51E+00	0.00E+00	5.51E+00
		Zr-95	<8.61E+00	0.00E+00	8.61E+00
		Nb-95	<5.27E+00	0.00E+00	5.27E+00
		I-131	<1.18E+01	0.00E+00	1.18E+01
		Cs-134	<4.22E+00	0.00E+00	4.22E+00
		Cs-137	<3.71E+00	0.00E+00	3.71E+00
		BaLa-140	<1.11E+01	0.00E+00	1.11E+01
		Be-7	<3.55E+01	0.00E+00	3.55E+01
		K-40	<6.80E+01	0.00E+00	6.80E+01
		H3DW	<-2.2E+01	0.00E+00	1.93E+02
485256	9/4/2018 - 10/1/2018	Beta	2.62E+00	1.02E+00	1.58E+00
		Mn-54	<3.70E+00	0.00E+00	3.70E+00
		Co-58	<3.47E+00	0.00E+00	3.47E+00
		Fe-59	<7.07E+00	0.00E+00	7.07E+00
		Co-60	<2.84E+00	0.00E+00	2.84E+00
		Zn-65	<5.97E+00	0.00E+00	5.97E+00
		Zr-95	<6.15E+00	0.00E+00	6.15E+00
		Nb-95	<4.47E+00	0.00E+00	4.47E+00
		I-131	<1.12E+01	0.00E+00	1.12E+01
		Cs-134	<1.92E+00	0.00E+00	1.92E+00
		Cs-137	<3.82E+00	0.00E+00	3.82E+00
		BaLa-140	<7.07E+00	0.00E+00	7.07E+00





# HARRIS Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: DRINKING WATER Concentration (Activity): pCi/l

Sample Point 58 [ CONTROL - SW @ 8.47 miles ]

Sample ID:	Sample Dates:		Nuclide	Activity	2 Sigma Error	MDA
485256	9/4/2018 - 10/1/2018		Be-7	<2.87E+01	0.00E+00	2.87E+01
			K-40	5.49E+01	3.47E+01	4.97E+01
			H3DW	<-1.4E+02	0.00E+00	1.98E+02
488467	10/1/2018 - 10/29/2018		Beta	3.19E+00	9.58E-01	1.42E+00
			Mn-54	<3.76E+00	0.00E+00	3.76E+00
			Co-58	<3.35E+00	0.00E+00	3.35E+00
			Fe-59	<9.93E+00	0.00E+00	9.93E+00
			Co-60	<3.59E+00	0.00E+00	3.59E+00
			Zn-65	<9.25E+00	0.00E+00	9.25E+00
			Zr-95	<6.97E+00	0.00E+00	6.97E+00
			Nb-95	<4.70E+00	0.00E+00	4.70E+00
			I-131	<1.18E+01	0.00E+00	1.18E+01
			Cs-134	<3.92E+00	0.00E+00	3.92E+00
			Cs-137	<3.19E+00	0.00E+00	3.19E+00
			BaLa-140	<1.11E+01	0.00E+00	1.11E+01
			Be-7	<3.56E+01	0.00E+00	3.56E+01
			K-40	<7.23E+01	0.00E+00	7.23E+01
			H3DW	<-8.4E+01	0.00E+00	1.91E+02
490148	10/29/2018 - 11/26/2018		Beta	3.58E+00	9.45E-01	1.37E+00
			Mn-54	<2.61E+00	0.00E+00	2.61E+00
			Co-58	<2.54E+00	0.00E+00	2.54E+00
			Fe-59	<7.18E+00	0.00E+00	7.18E+00
			Co-60	<2.08E+00	0.00E+00	2.08E+00
			Zn-65	<5.92E+00	0.00E+00	5.92E+00
			Zr-95	<5.70E+00	0.00E+00	5.70E+00
			Nb-95	<4.31E+00	0.00E+00	4.31E+00
			I-131	<1.17E+01	0.00E+00	1.17E+01
			Cs-134	<3.40E+00	0.00E+00	3.40E+00
			Cs-137	<2.80E+00	0.00E+00	2.80E+00
			BaLa-140	<5.77E+00	0.00E+00	5.77E+00
			Be-7	<2.97E+01	0.00E+00	2.97E+01
			K-40	<4.80E+01	0.00E+00	4.80E+01
			H3DW	<-3.6E+01	0.00E+00	1.89E+02
491743	11/26/2018 - 12/26/2018		Beta	1.65E+00	8.03E-01	1.28E+00
			Mn-54	<1.74E+00	0.00E+00	1.74E+00
			Co-58	<2.18E+00	0.00E+00	2.18E+00
			Fe-59	<3.80E+00	0.00E+00	3.80E+00
			Co-60	<1.49E+00	0.00E+00	1.49E+00
			Zn-65	<5.03E+00	0.00E+00	5.03E+00
			Zr-95	<3.47E+00	0.00E+00	3.47E+00
			Nb-95	<2.71E+00	0.00E+00	2.71E+00
			I-131	<1.18E+01	0.00E+00	1.18E+01
			Cs-134	<1.98E+00	0.00E+00	1.98E+00
			Cs-137	<1.98E+00	0.00E+00	1.98E+00
			BaLa-140	<5.58E+00	0.00E+00	5.58E+00
			Be-7	<1.79E+01	0.00E+00	1.79E+01
			K-40	3.46E+01	2.00E+01	2.96E+01
			H3DW	<-2.6E+01	0.00E+00	1.96E+02

Media Type: FISH Concentration (Activity): pCi/kg wet

Sample Point 44 [ INDICATOR - -- @ 0 miles ]

Sample ID:	Sample Dates:		Nuclide	Activity	2 Sigma Error	MDA
472415	4/19/2018 - 4/19/2018	BOTMFEEDER	Mn-54	<3.74E+01	0.00E+00	3.74E+01
			Co-58	<2.98E+01	0.00E+00	2.98E+01
			Fe-59	<9.73E+01	0.00E+00	9.73E+01
			Co-60	<4.38E+01	0.00E+00	4.38E+01
			Zn-65	<7.92E+01	0.00E+00	7.92E+01
			Nb-95	<5.15E+01	0.00E+00	5.15E+01
			I-131	<1.27E+02	0.00E+00	1.27E+02



# HARRIS Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: FISH Concentration (Activity): pCi/kg wet

Sample Point 44 [ INDICATOR - -- @ 0 miles ]

Sample ID:	Sample Dates:	Location:	Nuclide	Activity	2 Sigma Error	MDA
472415	4/19/2018 - 4/19/2018	BOTMFEEDER	Cs-134	<4.42E+01	0.00E+00	4.42E+01
			Cs-137	<4.22E+01	0.00E+00	4.22E+01
			Be-7	<3.55E+02	0.00E+00	3.55E+02
			K-40	2.78E+03	7.79E+02	6.33E+02
			Ag-110M	<3.25E+01	0.00E+00	3.25E+01
			Sb-122	<4.20E+03	0.00E+00	4.20E+03
			Sb-125	<5.16E+01	0.00E+00	5.16E+01
472416	4/19/2018 - 4/19/2018	FREESWIM	Mn-54	<3.61E+01	0.00E+00	3.61E+01
			Co-58	<4.40E+01	0.00E+00	4.40E+01
			Fe-59	<9.45E+01	0.00E+00	9.45E+01
			Co-60	<4.68E+01	0.00E+00	4.68E+01
			Zn-65	<8.50E+01	0.00E+00	8.50E+01
			Nb-95	<5.69E+01	0.00E+00	5.69E+01
			I-131	<1.45E+02	0.00E+00	1.45E+02
			Cs-134	<4.80E+01	0.00E+00	4.80E+01
			Cs-137	<3.63E+01	0.00E+00	3.63E+01
			Be-7	<2.93E+02	0.00E+00	2.93E+02
			K-40	3.42E+03	8.31E+02	5.64E+02
			Ag-110M	<2.88E+01	0.00E+00	2.88E+01
			Sb-122	<5.48E+03	0.00E+00	5.48E+03
Sb-125	<8.05E+01	0.00E+00	8.05E+01			
472417	4/19/2018 - 4/20/2018	FREESWIM	Mn-54	<2.67E+01	0.00E+00	2.67E+01
			Co-58	<3.49E+01	0.00E+00	3.49E+01
			Fe-59	<6.05E+01	0.00E+00	6.05E+01
			Co-60	<3.81E+01	0.00E+00	3.81E+01
			Zn-65	<1.05E+02	0.00E+00	1.05E+02
			Nb-95	<5.88E+01	0.00E+00	5.88E+01
			I-131	<1.24E+02	0.00E+00	1.24E+02
			Cs-134	<3.40E+01	0.00E+00	3.40E+01
			Cs-137	<1.98E+01	0.00E+00	1.98E+01
			Be-7	<3.05E+02	0.00E+00	3.05E+02
			K-40	2.98E+03	8.02E+02	6.14E+02
			Ag-110M	<2.69E+01	0.00E+00	2.69E+01
			Sb-122	<4.61E+03	0.00E+00	4.61E+03
Sb-125	<7.91E+01	0.00E+00	7.91E+01			
485466	10/1/2018 - 10/1/2018	BOTMFEEDER	Mn-54	<5.76E+01	0.00E+00	5.76E+01
			Co-58	<7.08E+01	0.00E+00	7.08E+01
			Fe-59	<1.52E+02	0.00E+00	1.52E+02
			Co-60	<7.05E+01	0.00E+00	7.05E+01
			Zn-65	<1.61E+02	0.00E+00	1.61E+02
			Nb-95	<3.98E+01	0.00E+00	3.98E+01
			I-131	<9.98E+01	0.00E+00	9.98E+01
			Cs-134	<6.42E+01	0.00E+00	6.42E+01
			Cs-137	<6.97E+01	0.00E+00	6.97E+01
			Be-7	<4.31E+02	0.00E+00	4.31E+02
			K-40	3.61E+03	1.08E+03	1.07E+03
			Ag-110M	<6.99E+01	0.00E+00	6.99E+01
			Sb-122	<9.70E+02	0.00E+00	9.70E+02
Sb-125	<1.63E+02	0.00E+00	1.63E+02			
485467	10/1/2018 - 10/1/2018	FREESWIM	Mn-54	<4.72E+01	0.00E+00	4.72E+01
			Co-58	<6.47E+01	0.00E+00	6.47E+01
			Fe-59	<8.86E+01	0.00E+00	8.86E+01
			Co-60	<7.01E+01	0.00E+00	7.01E+01
			Zn-65	<1.44E+02	0.00E+00	1.44E+02
			Nb-95	<6.46E+01	0.00E+00	6.46E+01
			I-131	<1.33E+02	0.00E+00	1.33E+02
			Cs-134	<6.81E+01	0.00E+00	6.81E+01
			Cs-137	<5.60E+01	0.00E+00	5.60E+01
			Be-7	<4.32E+02	0.00E+00	4.32E+02



# HARRIS Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: FISH Concentration (Activity): pCi/kg wet

Sample Point 44 [ INDICATOR - -- @ 0 miles ]

Sample ID:	Sample Dates:	FREESWIM	Nuclide	Activity	2 Sigma Error	MDA
485467	10/1/2018 - 10/1/2018		K-40	4.34E+03	1.07E+03	6.42E+02
			Ag-110M	<6.15E+01	0.00E+00	6.15E+01
			Sb-122	<8.50E+02	0.00E+00	8.50E+02
			Sb-125	<1.77E+02	0.00E+00	1.77E+02

Sample ID:	Sample Dates:	FREESWIM	Nuclide	Activity	2 Sigma Error	MDA
485468	10/1/2018 - 10/1/2018		Mn-54	<5.73E+01	0.00E+00	5.73E+01
			Co-58	<3.11E+01	0.00E+00	3.11E+01
			Fe-59	<1.11E+02	0.00E+00	1.11E+02
			Co-60	<6.24E+01	0.00E+00	6.24E+01
			Zn-65	<1.04E+02	0.00E+00	1.04E+02
			Nb-95	<4.97E+01	0.00E+00	4.97E+01
			I-131	<9.20E+01	0.00E+00	9.20E+01
			Cs-134	<5.87E+01	0.00E+00	5.87E+01
			Cs-137	<5.32E+01	0.00E+00	5.32E+01
			Be-7	<4.35E+02	0.00E+00	4.35E+02
			K-40	3.59E+03	9.41E+02	7.87E+02
			Ag-110M	<4.84E+01	0.00E+00	4.84E+01
			Sb-122	<4.80E+02	0.00E+00	4.80E+02
			Sb-125	<1.17E+02	0.00E+00	1.17E+02

Sample Point 45 [ CONTROL - -- @ 0 miles ]

Sample ID:	Sample Dates:	FREESWIM	Nuclide	Activity	2 Sigma Error	MDA
472418	4/20/2018 - 4/20/2018		Mn-54	<9.29E+00	0.00E+00	9.29E+00
			Co-58	<1.04E+01	0.00E+00	1.04E+01
			Fe-59	<9.02E+01	0.00E+00	9.02E+01
			Co-60	<3.61E+01	0.00E+00	3.61E+01
			Zn-65	<8.22E+01	0.00E+00	8.22E+01
			Nb-95	<6.17E+01	0.00E+00	6.17E+01
			I-131	<1.63E+02	0.00E+00	1.63E+02
			Cs-134	<2.77E+01	0.00E+00	2.77E+01
			Cs-137	<3.45E+01	0.00E+00	3.45E+01
			Be-7	<4.46E+02	0.00E+00	4.46E+02
			K-40	4.20E+03	1.03E+03	7.19E+02
			Ag-110M	<3.58E+01	0.00E+00	3.58E+01
			Sb-122	<3.81E+03	0.00E+00	3.81E+03
			Sb-125	<4.92E+01	0.00E+00	4.92E+01

Sample ID:	Sample Dates:	FREESWIM	Nuclide	Activity	2 Sigma Error	MDA
472419	4/20/2018 - 4/20/2018		Mn-54	<3.29E+01	0.00E+00	3.29E+01
			Co-58	<3.38E+01	0.00E+00	3.38E+01
			Fe-59	<5.23E+01	0.00E+00	5.23E+01
			Co-60	<3.86E+01	0.00E+00	3.86E+01
			Zn-65	<6.01E+01	0.00E+00	6.01E+01
			Nb-95	<2.97E+01	0.00E+00	2.97E+01
			I-131	<1.22E+02	0.00E+00	1.22E+02
			Cs-134	<2.96E+01	0.00E+00	2.96E+01
			Cs-137	<2.17E+01	0.00E+00	2.17E+01
			Be-7	<3.26E+02	0.00E+00	3.26E+02
			K-40	2.68E+03	6.82E+02	3.86E+02
			Ag-110M	<2.85E+01	0.00E+00	2.85E+01
			Sb-122	<3.27E+03	0.00E+00	3.27E+03
			Sb-125	<5.26E+01	0.00E+00	5.26E+01

Sample ID:	Sample Dates:	BOTMFEEDER	Nuclide	Activity	2 Sigma Error	MDA
472420	4/20/2018 - 4/20/2018		Mn-54	<3.63E+01	0.00E+00	3.63E+01
			Co-58	<2.28E+01	0.00E+00	2.28E+01
			Fe-59	<1.02E+02	0.00E+00	1.02E+02
			Co-60	<3.68E+01	0.00E+00	3.68E+01
			Zn-65	<6.63E+01	0.00E+00	6.63E+01
			Nb-95	<3.75E+01	0.00E+00	3.75E+01
			I-131	<1.13E+02	0.00E+00	1.13E+02
			Cs-134	<4.30E+01	0.00E+00	4.30E+01
			Cs-137	<3.11E+01	0.00E+00	3.11E+01
			Be-7	<2.20E+02	0.00E+00	2.20E+02
			K-40	3.41E+03	8.53E+02	6.52E+02



# HARRIS Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: FISH Concentration (Activity): pCi/kg wet

Sample Point 45 [ CONTROL - -- @ 0 miles ]

Sample ID:	Sample Dates:	Location:	Nuclide	Activity	2 Sigma Error	MDA
472420	4/20/2018 - 4/20/2018	BOTMFEEDER	Ag-110M	<3.39E+01	0.00E+00	3.39E+01
			Sb-122	<3.17E+03	0.00E+00	3.17E+03
			Sb-125	<8.11E+01	0.00E+00	8.11E+01
485469	10/1/2018 - 10/1/2018	FREESWIM	Mn-54	<4.98E+01	0.00E+00	4.98E+01
			Co-58	<5.13E+01	0.00E+00	5.13E+01
			Fe-59	<9.88E+01	0.00E+00	9.88E+01
			Co-60	<4.75E+01	0.00E+00	4.75E+01
			Zn-65	<1.46E+02	0.00E+00	1.46E+02
			Nb-95	<6.57E+01	0.00E+00	6.57E+01
			I-131	<1.21E+02	0.00E+00	1.21E+02
			Cs-134	<6.84E+01	0.00E+00	6.84E+01
			Cs-137	<6.21E+01	0.00E+00	6.21E+01
			Be-7	<5.58E+02	0.00E+00	5.58E+02
			K-40	4.78E+03	1.17E+03	9.60E+02
			Ag-110M	<5.66E+01	0.00E+00	5.66E+01
			Sb-122	<7.63E+02	0.00E+00	7.63E+02
			Sb-125	<1.77E+02	0.00E+00	1.77E+02
485470	10/1/2018 - 10/1/2018	FREESWIM	Mn-54	<5.61E+01	0.00E+00	5.61E+01
			Co-58	<6.54E+01	0.00E+00	6.54E+01
			Fe-59	<8.21E+01	0.00E+00	8.21E+01
			Co-60	<5.95E+01	0.00E+00	5.95E+01
			Zn-65	<1.16E+02	0.00E+00	1.16E+02
			Nb-95	<6.90E+01	0.00E+00	6.90E+01
			I-131	<1.01E+02	0.00E+00	1.01E+02
			Cs-134	<7.42E+01	0.00E+00	7.42E+01
			Cs-137	<5.95E+01	0.00E+00	5.95E+01
			Be-7	<5.05E+02	0.00E+00	5.05E+02
			K-40	4.67E+03	1.07E+03	5.86E+02
			Ag-110M	<5.18E+01	0.00E+00	5.18E+01
			Sb-122	<7.52E+02	0.00E+00	7.52E+02
			Sb-125	<1.26E+02	0.00E+00	1.26E+02
485471	10/1/2018 - 10/1/2018	BOTMFEEDER	Mn-54	<4.75E+01	0.00E+00	4.75E+01
			Co-58	<3.25E+01	0.00E+00	3.25E+01
			Fe-59	<9.99E+01	0.00E+00	9.99E+01
			Co-60	<4.76E+01	0.00E+00	4.76E+01
			Zn-65	<9.34E+01	0.00E+00	9.34E+01
			Nb-95	<4.79E+01	0.00E+00	4.79E+01
			I-131	<9.57E+01	0.00E+00	9.57E+01
			Cs-134	<5.97E+01	0.00E+00	5.97E+01
			Cs-137	<4.14E+01	0.00E+00	4.14E+01
			Be-7	<4.55E+02	0.00E+00	4.55E+02
			K-40	3.68E+03	9.22E+02	8.07E+02
			Ag-110M	<3.54E+01	0.00E+00	3.54E+01
			Sb-122	<7.31E+02	0.00E+00	7.31E+02
			Sb-125	<1.18E+02	0.00E+00	1.18E+02

Media Type: GROUND WATER Concentration (Activity): pCi/l

Sample Point 57 [ INDICATOR - SSW @ 0.4 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
467117	2/20/2018 - 2/20/2018	Mn-54	<5.99E+00	0.00E+00	5.99E+00
		Co-58	<6.03E+00	0.00E+00	6.03E+00
		Fe-59	<1.05E+01	0.00E+00	1.05E+01
		Co-60	<6.81E+00	0.00E+00	6.81E+00
		Zn-65	<1.09E+01	0.00E+00	1.09E+01
		Zr-95	<1.12E+01	0.00E+00	1.12E+01
		Nb-95	<7.37E+00	0.00E+00	7.37E+00
		I-131	<9.72E+00	0.00E+00	9.72E+00
		Cs-134	<5.12E+00	0.00E+00	5.12E+00
		Cs-137	<6.99E+00	0.00E+00	6.99E+00



# HARRIS Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: GROUND WATER Concentration (Activity): pCi/l

Sample Point 57 [ INDICATOR - SSW @ 0.4 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
467117	2/20/2018 - 2/20/2018	BaLa-140	<1.19E+01	0.00E+00	1.19E+01
		Be-7	<4.81E+01	0.00E+00	4.81E+01
		K-40	<1.04E+02	0.00E+00	1.04E+02
		H3GW	<4.48E+01	0.00E+00	1.86E+02

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
474243	5/8/2018 - 5/8/2018	Mn-54	<5.42E+00	0.00E+00	5.42E+00
		Co-58	<5.70E+00	0.00E+00	5.70E+00
		Fe-59	<1.23E+01	0.00E+00	1.23E+01
		Co-60	<5.53E+00	0.00E+00	5.53E+00
		Zn-65	<1.06E+01	0.00E+00	1.06E+01
		Zr-95	<1.17E+01	0.00E+00	1.17E+01
		Nb-95	<7.16E+00	0.00E+00	7.16E+00
		I-131	<1.03E+01	0.00E+00	1.03E+01
		Cs-134	<6.04E+00	0.00E+00	6.04E+00
		Cs-137	<6.92E+00	0.00E+00	6.92E+00
		BaLa-140	<1.07E+01	0.00E+00	1.07E+01
		Be-7	<4.15E+01	0.00E+00	4.15E+01
		K-40	<1.24E+02	0.00E+00	1.24E+02
H3GW	<4.2E+01	0.00E+00	1.83E+02		

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
481128	8/7/2018 - 8/7/2018	Mn-54	<6.20E+00	0.00E+00	6.20E+00
		Co-58	<6.98E+00	0.00E+00	6.98E+00
		Fe-59	<1.36E+01	0.00E+00	1.36E+01
		Co-60	<4.44E+00	0.00E+00	4.44E+00
		Zn-65	<9.52E+00	0.00E+00	9.52E+00
		Zr-95	<8.81E+00	0.00E+00	8.81E+00
		Nb-95	<6.82E+00	0.00E+00	6.82E+00
		I-131	<7.07E+00	0.00E+00	7.07E+00
		Cs-134	<6.97E+00	0.00E+00	6.97E+00
		Cs-137	<4.96E+00	0.00E+00	4.96E+00
		BaLa-140	<7.86E+00	0.00E+00	7.86E+00
		Be-7	<4.60E+01	0.00E+00	4.60E+01
		K-40	<1.07E+02	0.00E+00	1.07E+02
H3GW	<3.8E+01	0.00E+00	1.80E+02		

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
481198	11/14/2018 - 11/14/2018	Mn-54	<5.68E+00	0.00E+00	5.68E+00
		Co-58	<5.62E+00	0.00E+00	5.62E+00
		Fe-59	<1.13E+01	0.00E+00	1.13E+01
		Co-60	<5.59E+00	0.00E+00	5.59E+00
		Zn-65	<9.90E+00	0.00E+00	9.90E+00
		Zr-95	<1.02E+01	0.00E+00	1.02E+01
		Nb-95	<5.90E+00	0.00E+00	5.90E+00
		I-131	<9.40E+00	0.00E+00	9.40E+00
		Cs-134	<6.35E+00	0.00E+00	6.35E+00
		Cs-137	<5.33E+00	0.00E+00	5.33E+00
		BaLa-140	<9.82E+00	0.00E+00	9.82E+00
		Be-7	<4.23E+01	0.00E+00	4.23E+01
		K-40	<1.13E+02	0.00E+00	1.13E+02
H3GW	<9.47E+00	0.00E+00	1.85E+02		

## Sample Point 59 [ INDICATOR - NNE @ 0.5 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
467118	2/21/2018 - 2/21/2018	Mn-54	<5.76E+00	0.00E+00	5.76E+00
		Co-58	<4.29E+00	0.00E+00	4.29E+00
		Fe-59	<9.86E+00	0.00E+00	9.86E+00
		Co-60	<7.78E+00	0.00E+00	7.78E+00
		Zn-65	<1.26E+01	0.00E+00	1.26E+01
		Zr-95	<1.15E+01	0.00E+00	1.15E+01
		Nb-95	<7.08E+00	0.00E+00	7.08E+00
		I-131	<7.57E+00	0.00E+00	7.57E+00
		Cs-134	<6.45E+00	0.00E+00	6.45E+00
		Cs-137	<6.40E+00	0.00E+00	6.40E+00
		BaLa-140	<9.73E+00	0.00E+00	9.73E+00



# HARRIS Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: GROUND WATER Concentration (Activity): pCi/l

Sample Point 59 [ INDICATOR - NNE @ 0.5 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
467118	2/21/2018 - 2/21/2018	Be-7	<4.17E+01	0.00E+00	4.17E+01
		K-40	<9.26E+01	0.00E+00	9.26E+01
		H3GW	<4.7E+00	0.00E+00	1.86E+02

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
474244	5/8/2018 - 5/8/2018	Mn-54	<2.56E+00	0.00E+00	2.56E+00
		Co-58	<4.54E+00	0.00E+00	4.54E+00
		Fe-59	<7.76E+00	0.00E+00	7.76E+00
		Co-60	<3.79E+00	0.00E+00	3.79E+00
		Zn-65	<7.51E+00	0.00E+00	7.51E+00
		Zr-95	<7.98E+00	0.00E+00	7.98E+00
		Nb-95	<4.51E+00	0.00E+00	4.51E+00
		I-131	<1.10E+01	0.00E+00	1.10E+01
		Cs-134	<4.25E+00	0.00E+00	4.25E+00
		Cs-137	<3.66E+00	0.00E+00	3.66E+00
		BaLa-140	<9.57E+00	0.00E+00	9.57E+00
		Be-7	<3.15E+01	0.00E+00	3.15E+01
		K-40	<7.75E+01	0.00E+00	7.75E+01
		H3GW	<8.0E+01	0.00E+00	1.89E+02

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
481129	8/6/2018 - 8/6/2018	Mn-54	<4.97E+00	0.00E+00	4.97E+00
		Co-58	<3.35E+00	0.00E+00	3.35E+00
		Fe-59	<1.15E+01	0.00E+00	1.15E+01
		Co-60	<5.53E+00	0.00E+00	5.53E+00
		Zn-65	<1.19E+01	0.00E+00	1.19E+01
		Zr-95	<9.05E+00	0.00E+00	9.05E+00
		Nb-95	<7.19E+00	0.00E+00	7.19E+00
		I-131	<8.58E+00	0.00E+00	8.58E+00
		Cs-134	<6.69E+00	0.00E+00	6.69E+00
		Cs-137	<6.14E+00	0.00E+00	6.14E+00
		BaLa-140	<1.08E+01	0.00E+00	1.08E+01
		Be-7	<4.10E+01	0.00E+00	4.10E+01
		K-40	1.40E+02	5.38E+01	4.45E+01
		H3GW	<4.3E+01	0.00E+00	1.80E+02

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
481199	11/12/2018 - 11/12/2018	Mn-54	<5.33E+00	0.00E+00	5.33E+00
		Co-58	<5.11E+00	0.00E+00	5.11E+00
		Fe-59	<1.08E+01	0.00E+00	1.08E+01
		Co-60	<5.43E+00	0.00E+00	5.43E+00
		Zn-65	<9.68E+00	0.00E+00	9.68E+00
		Zr-95	<9.73E+00	0.00E+00	9.73E+00
		Nb-95	<5.28E+00	0.00E+00	5.28E+00
		I-131	<1.02E+01	0.00E+00	1.02E+01
		Cs-134	<6.59E+00	0.00E+00	6.59E+00
		Cs-137	<5.87E+00	0.00E+00	5.87E+00
		BaLa-140	<2.06E+00	0.00E+00	2.06E+00
		Be-7	<4.17E+01	0.00E+00	4.17E+01
		K-40	<9.74E+01	0.00E+00	9.74E+01
		H3GW	<2.1E+01	0.00E+00	1.84E+02

Sample Point 60 [ INDICATOR - ESE @ 0.5 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
467119	2/21/2018 - 2/21/2018	Mn-54	<6.35E+00	0.00E+00	6.35E+00
		Co-58	<4.62E+00	0.00E+00	4.62E+00
		Fe-59	<8.10E+00	0.00E+00	8.10E+00
		Co-60	<4.83E+00	0.00E+00	4.83E+00
		Zn-65	<1.13E+01	0.00E+00	1.13E+01
		Zr-95	<8.86E+00	0.00E+00	8.86E+00
		Nb-95	<6.79E+00	0.00E+00	6.79E+00
		I-131	<6.78E+00	0.00E+00	6.78E+00
		Cs-134	<5.51E+00	0.00E+00	5.51E+00
		Cs-137	<5.17E+00	0.00E+00	5.17E+00
		BaLa-140	<7.19E+00	0.00E+00	7.19E+00
		Be-7	<4.06E+01	0.00E+00	4.06E+01



# HARRIS Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: GROUND WATER Concentration (Activity): pCi/l

Sample Point 60 [ INDICATOR - ESE @ 0.5 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
467119	2/21/2018 - 2/21/2018	K-40	9.47E+01	5.08E+01	6.29E+01
		H3GW	<0.00E+00	0.00E+00	1.86E+02

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
474245	5/8/2018 - 5/8/2018	Mn-54	<6.01E+00	0.00E+00	6.01E+00
		Co-58	<7.90E+00	0.00E+00	7.90E+00
		Fe-59	<1.31E+01	0.00E+00	1.31E+01
		Co-60	<5.86E+00	0.00E+00	5.86E+00
		Zn-65	<1.13E+01	0.00E+00	1.13E+01
		Zr-95	<1.18E+01	0.00E+00	1.18E+01
		Nb-95	<5.55E+00	0.00E+00	5.55E+00
		I-131	<1.05E+01	0.00E+00	1.05E+01
		Cs-134	<5.35E+00	0.00E+00	5.35E+00
		Cs-137	<5.15E+00	0.00E+00	5.15E+00
		BaLa-140	<7.97E+00	0.00E+00	7.97E+00
		Be-7	<3.86E+01	0.00E+00	3.86E+01
		K-40	9.75E+01	6.22E+01	8.71E+01
H3GW	<-1.3E+02	0.00E+00	1.83E+02		

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
481130	8/6/2018 - 8/6/2018	Mn-54	<5.91E+00	0.00E+00	5.91E+00
		Co-58	<5.29E+00	0.00E+00	5.29E+00
		Fe-59	<8.42E+00	0.00E+00	8.42E+00
		Co-60	<3.84E+00	0.00E+00	3.84E+00
		Zn-65	<8.83E+00	0.00E+00	8.83E+00
		Zr-95	<8.84E+00	0.00E+00	8.84E+00
		Nb-95	<4.91E+00	0.00E+00	4.91E+00
		I-131	<8.90E+00	0.00E+00	8.90E+00
		Cs-134	<5.95E+00	0.00E+00	5.95E+00
		Cs-137	<4.75E+00	0.00E+00	4.75E+00
		BaLa-140	<9.29E+00	0.00E+00	9.29E+00
		Be-7	<3.99E+01	0.00E+00	3.99E+01
		K-40	<9.51E+01	0.00E+00	9.51E+01
H3GW	<-2.2E+01	0.00E+00	1.80E+02		

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
481200	11/12/2018 - 11/12/2018	Mn-54	<4.28E+00	0.00E+00	4.28E+00
		Co-58	<5.19E+00	0.00E+00	5.19E+00
		Fe-59	<9.82E+00	0.00E+00	9.82E+00
		Co-60	<6.05E+00	0.00E+00	6.05E+00
		Zn-65	<1.08E+01	0.00E+00	1.08E+01
		Zr-95	<1.01E+01	0.00E+00	1.01E+01
		Nb-95	<6.74E+00	0.00E+00	6.74E+00
		I-131	<9.30E+00	0.00E+00	9.30E+00
		Cs-134	<4.77E+00	0.00E+00	4.77E+00
		Cs-137	<5.18E+00	0.00E+00	5.18E+00
		BaLa-140	<9.79E+00	0.00E+00	9.79E+00
		Be-7	<4.91E+01	0.00E+00	4.91E+01
		K-40	<9.48E+01	0.00E+00	9.48E+01
H3GW	<-1.0E+02	0.00E+00	1.84E+02		

## Sample Point 68 [ INDICATOR - W @ 0.2 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
467120	2/20/2018 - 2/20/2018	Mn-54	<5.53E+00	0.00E+00	5.53E+00
		Co-58	<5.72E+00	0.00E+00	5.72E+00
		Fe-59	<1.41E+01	0.00E+00	1.41E+01
		Co-60	<3.84E+00	0.00E+00	3.84E+00
		Zn-65	<1.17E+01	0.00E+00	1.17E+01
		Zr-95	<8.84E+00	0.00E+00	8.84E+00
		Nb-95	<5.16E+00	0.00E+00	5.16E+00
		I-131	<8.77E+00	0.00E+00	8.77E+00
		Cs-134	<4.63E+00	0.00E+00	4.63E+00
		Cs-137	<4.75E+00	0.00E+00	4.75E+00
		BaLa-140	<6.60E+00	0.00E+00	6.60E+00
		Be-7	<4.35E+01	0.00E+00	4.35E+01
		K-40	<8.82E+01	0.00E+00	8.82E+01



# HARRIS Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: GROUND WATER Concentration (Activity): pCi/l

Sample Point 68 [ INDICATOR - W @ 0.2 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
467120	2/20/2018 - 2/20/2018	H3GW	<4.72E+00	0.00E+00	1.86E+02

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
474246	5/9/2018 - 5/9/2018	Mn-54	<5.80E+00	0.00E+00	5.80E+00
		Co-58	<4.36E+00	0.00E+00	4.36E+00
		Fe-59	<1.20E+01	0.00E+00	1.20E+01
		Co-60	<6.69E+00	0.00E+00	6.69E+00
		Zn-65	<1.36E+01	0.00E+00	1.36E+01
		Zr-95	<1.15E+01	0.00E+00	1.15E+01
		Nb-95	<6.93E+00	0.00E+00	6.93E+00
		I-131	<7.51E+00	0.00E+00	7.51E+00
		Cs-134	<4.99E+00	0.00E+00	4.99E+00
		Cs-137	<7.06E+00	0.00E+00	7.06E+00
		BaLa-140	<8.00E+00	0.00E+00	8.00E+00
		Be-7	<4.42E+01	0.00E+00	4.42E+01
		K-40	9.92E+01	5.46E+01	6.95E+01
		H3GW	<-7.1E+00	0.00E+00	1.83E+02

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
481131	8/7/2018 - 8/7/2018	Mn-54	<5.53E+00	0.00E+00	5.53E+00
		Co-58	<5.10E+00	0.00E+00	5.10E+00
		Fe-59	<9.37E+00	0.00E+00	9.37E+00
		Co-60	<5.84E+00	0.00E+00	5.84E+00
		Zn-65	<1.11E+01	0.00E+00	1.11E+01
		Zr-95	<9.71E+00	0.00E+00	9.71E+00
		Nb-95	<6.16E+00	0.00E+00	6.16E+00
		I-131	<6.89E+00	0.00E+00	6.89E+00
		Cs-134	<6.38E+00	0.00E+00	6.38E+00
		Cs-137	<5.70E+00	0.00E+00	5.70E+00
		BaLa-140	<8.15E+00	0.00E+00	8.15E+00
		Be-7	<3.50E+01	0.00E+00	3.50E+01
		K-40	7.52E+01	6.69E+01	1.04E+02
		H3GW	<9.61E+01	0.00E+00	1.80E+02

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
481201	11/14/2018 - 11/14/2018	Mn-54	<6.04E+00	0.00E+00	6.04E+00
		Co-58	<4.37E+00	0.00E+00	4.37E+00
		Fe-59	<1.31E+01	0.00E+00	1.31E+01
		Co-60	<7.01E+00	0.00E+00	7.01E+00
		Zn-65	<9.34E+00	0.00E+00	9.34E+00
		Zr-95	<9.90E+00	0.00E+00	9.90E+00
		Nb-95	<6.61E+00	0.00E+00	6.61E+00
		I-131	<8.26E+00	0.00E+00	8.26E+00
		Cs-134	<4.76E+00	0.00E+00	4.76E+00
		Cs-137	<5.70E+00	0.00E+00	5.70E+00
		BaLa-140	<7.12E+00	0.00E+00	7.12E+00
		Be-7	<3.83E+01	0.00E+00	3.83E+01
		K-40	<8.11E+01	0.00E+00	8.11E+01
		H3GW	<7.78E+01	0.00E+00	1.84E+02

## Sample Point 69 [ INDICATOR - NNE @ 0.2 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
467121	2/20/2018 - 2/20/2018	Mn-54	<5.51E+00	0.00E+00	5.51E+00
		Co-58	<6.09E+00	0.00E+00	6.09E+00
		Fe-59	<1.22E+01	0.00E+00	1.22E+01
		Co-60	<5.43E+00	0.00E+00	5.43E+00
		Zn-65	<1.52E+01	0.00E+00	1.52E+01
		Zr-95	<6.92E+00	0.00E+00	6.92E+00
		Nb-95	<6.39E+00	0.00E+00	6.39E+00
		I-131	<8.84E+00	0.00E+00	8.84E+00
		Cs-134	<6.98E+00	0.00E+00	6.98E+00
		Cs-137	<4.26E+00	0.00E+00	4.26E+00
		BaLa-140	<7.60E+00	0.00E+00	7.60E+00
		Be-7	<3.72E+01	0.00E+00	3.72E+01
		K-40	9.09E+01	5.53E+01	7.50E+01





# HARRIS Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: GROUND WATER Concentration (Activity): pCi/l

Sample Point 69 [ INDICATOR - NNE @ 0.2 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
467121	2/20/2018 - 2/20/2018	H3GW	<-3.3E+01	0.00E+00	1.86E+02

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
474247	5/8/2018 - 5/8/2018	Mn-54	<4.52E+00	0.00E+00	4.52E+00
		Co-58	<4.95E+00	0.00E+00	4.95E+00
		Fe-59	<8.33E+00	0.00E+00	8.33E+00
		Co-60	<4.34E+00	0.00E+00	4.34E+00
		Zn-65	<8.60E+00	0.00E+00	8.60E+00
		Zr-95	<7.32E+00	0.00E+00	7.32E+00
		Nb-95	<5.11E+00	0.00E+00	5.11E+00
		I-131	<1.05E+01	0.00E+00	1.05E+01
		Cs-134	<6.58E+00	0.00E+00	6.58E+00
		Cs-137	<4.13E+00	0.00E+00	4.13E+00
		BaLa-140	<8.85E+00	0.00E+00	8.85E+00
		Be-7	<4.50E+01	0.00E+00	4.50E+01
		K-40	<1.10E+02	0.00E+00	1.10E+02
		H3GW	<-4.0E+01	0.00E+00	1.83E+02

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
481132	8/7/2018 - 8/7/2018	Mn-54	<4.51E+00	0.00E+00	4.51E+00
		Co-58	<5.77E+00	0.00E+00	5.77E+00
		Fe-59	<9.08E+00	0.00E+00	9.08E+00
		Co-60	<5.28E+00	0.00E+00	5.28E+00
		Zn-65	<1.14E+01	0.00E+00	1.14E+01
		Zr-95	<8.22E+00	0.00E+00	8.22E+00
		Nb-95	<6.33E+00	0.00E+00	6.33E+00
		I-131	<8.27E+00	0.00E+00	8.27E+00
		Cs-134	<5.52E+00	0.00E+00	5.52E+00
		Cs-137	<5.85E+00	0.00E+00	5.85E+00
		BaLa-140	<8.80E+00	0.00E+00	8.80E+00
		Be-7	<4.37E+01	0.00E+00	4.37E+01
		K-40	7.91E+01	6.03E+01	9.02E+01
		H3GW	<-1.8E+01	0.00E+00	1.80E+02

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
481202	11/12/2018 - 11/12/2018	Mn-54	<5.28E+00	0.00E+00	5.28E+00
		Co-58	<4.75E+00	0.00E+00	4.75E+00
		Fe-59	<1.28E+01	0.00E+00	1.28E+01
		Co-60	<6.77E+00	0.00E+00	6.77E+00
		Zn-65	<9.96E+00	0.00E+00	9.96E+00
		Zr-95	<8.32E+00	0.00E+00	8.32E+00
		Nb-95	<5.93E+00	0.00E+00	5.93E+00
		I-131	<8.32E+00	0.00E+00	8.32E+00
		Cs-134	<6.13E+00	0.00E+00	6.13E+00
		Cs-137	<5.53E+00	0.00E+00	5.53E+00
		BaLa-140	<1.17E+01	0.00E+00	1.17E+01
		Be-7	<3.95E+01	0.00E+00	3.95E+01
		K-40	<7.43E+01	0.00E+00	7.43E+01
		H3GW	<6.63E+01	0.00E+00	1.85E+02

## Sample Point 70 [ INDICATOR - E @ 0.4 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
467122	2/20/2018 - 2/20/2018	Mn-54	<5.71E+00	0.00E+00	5.71E+00
		Co-58	<4.67E+00	0.00E+00	4.67E+00
		Fe-59	<1.03E+01	0.00E+00	1.03E+01
		Co-60	<6.71E+00	0.00E+00	6.71E+00
		Zn-65	<1.30E+01	0.00E+00	1.30E+01
		Zr-95	<9.32E+00	0.00E+00	9.32E+00
		Nb-95	<5.46E+00	0.00E+00	5.46E+00
		I-131	<8.07E+00	0.00E+00	8.07E+00
		Cs-134	<7.62E+00	0.00E+00	7.62E+00
		Cs-137	<5.53E+00	0.00E+00	5.53E+00
		BaLa-140	<7.55E+00	0.00E+00	7.55E+00
		Be-7	<4.44E+01	0.00E+00	4.44E+01
		K-40	9.80E+01	4.94E+01	5.75E+01



# HARRIS Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: GROUND WATER Concentration (Activity): pCi/l

Sample Point 70 [ INDICATOR - E @ 0.4 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
467122	2/20/2018 - 2/20/2018	H3GW	<-8.5E+01	0.00E+00	1.86E+02

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
474248	5/7/2018 - 5/7/2018	Mn-54	<5.08E+00	0.00E+00	5.08E+00
		Co-58	<5.90E+00	0.00E+00	5.90E+00
		Fe-59	<1.04E+01	0.00E+00	1.04E+01
		Co-60	<5.87E+00	0.00E+00	5.87E+00
		Zn-65	<1.20E+01	0.00E+00	1.20E+01
		Zr-95	<7.13E+00	0.00E+00	7.13E+00
		Nb-95	<6.70E+00	0.00E+00	6.70E+00
		I-131	<1.03E+01	0.00E+00	1.03E+01
		Cs-134	<5.35E+00	0.00E+00	5.35E+00
		Cs-137	<4.90E+00	0.00E+00	4.90E+00
		BaLa-140	<6.62E+00	0.00E+00	6.62E+00
		Be-7	1.72E+00	2.55E+01	4.75E+01
		K-40	8.12E+01	5.51E+01	7.69E+01
		H3GW	<-2.4E+00	0.00E+00	1.83E+02

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
481133	8/6/2018 - 8/6/2018	Mn-54	<4.88E+00	0.00E+00	4.88E+00
		Co-58	<3.97E+00	0.00E+00	3.97E+00
		Fe-59	<1.22E+01	0.00E+00	1.22E+01
		Co-60	<4.46E+00	0.00E+00	4.46E+00
		Zn-65	<1.28E+01	0.00E+00	1.28E+01
		Zr-95	<1.03E+01	0.00E+00	1.03E+01
		Nb-95	<6.01E+00	0.00E+00	6.01E+00
		I-131	<7.85E+00	0.00E+00	7.85E+00
		Cs-134	<5.70E+00	0.00E+00	5.70E+00
		Cs-137	<6.36E+00	0.00E+00	6.36E+00
		BaLa-140	<7.62E+00	0.00E+00	7.62E+00
		Be-7	<4.75E+01	0.00E+00	4.75E+01
		K-40	<7.52E+01	0.00E+00	7.52E+01
		H3GW	<-4.9E+01	0.00E+00	1.80E+02

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
481203	11/12/2018 - 11/12/2018	Mn-54	<4.66E+00	0.00E+00	4.66E+00
		Co-58	<4.60E+00	0.00E+00	4.60E+00
		Fe-59	<1.01E+01	0.00E+00	1.01E+01
		Co-60	<7.22E+00	0.00E+00	7.22E+00
		Zn-65	<1.17E+01	0.00E+00	1.17E+01
		Zr-95	<1.14E+01	0.00E+00	1.14E+01
		Nb-95	<5.27E+00	0.00E+00	5.27E+00
		I-131	<8.72E+00	0.00E+00	8.72E+00
		Cs-134	<6.79E+00	0.00E+00	6.79E+00
		Cs-137	<3.72E+00	0.00E+00	3.72E+00
		BaLa-140	<1.07E+01	0.00E+00	1.07E+01
		Be-7	<3.50E+01	0.00E+00	3.50E+01
		K-40	4.56E+01	7.12E+01	1.19E+02
		H3GW	<-7.1E+00	0.00E+00	1.84E+02

## Sample Point 71 [ INDICATOR - SE @ 0.3 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
467123	2/19/2018 - 2/19/2018	Mn-54	<5.13E+00	0.00E+00	5.13E+00
		Co-58	<3.69E+00	0.00E+00	3.69E+00
		Fe-59	<7.70E+00	0.00E+00	7.70E+00
		Co-60	<6.56E+00	0.00E+00	6.56E+00
		Zn-65	<9.67E+00	0.00E+00	9.67E+00
		Zr-95	<8.07E+00	0.00E+00	8.07E+00
		Nb-95	<5.76E+00	0.00E+00	5.76E+00
		I-131	<9.18E+00	0.00E+00	9.18E+00
		Cs-134	<5.21E+00	0.00E+00	5.21E+00
		Cs-137	<5.36E+00	0.00E+00	5.36E+00
		BaLa-140	<9.95E+00	0.00E+00	9.95E+00
		Be-7	<4.95E+01	0.00E+00	4.95E+01
		K-40	<8.33E+01	0.00E+00	8.33E+01



# HARRIS Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: GROUND WATER Concentration (Activity): pCi/l

Sample Point 71 [ INDICATOR - SE @ 0.3 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
467123	2/19/2018 - 2/19/2018	H3GW	<-4.3E+01	0.00E+00	1.86E+02

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
474249	5/7/2018 - 5/7/2018	Mn-54	<5.65E+00	0.00E+00	5.65E+00
		Co-58	<5.60E+00	0.00E+00	5.60E+00
		Fe-59	<1.07E+01	0.00E+00	1.07E+01
		Co-60	<5.33E+00	0.00E+00	5.33E+00
		Zn-65	<1.19E+01	0.00E+00	1.19E+01
		Zr-95	<1.03E+01	0.00E+00	1.03E+01
		Nb-95	<5.94E+00	0.00E+00	5.94E+00
		I-131	<9.16E+00	0.00E+00	9.16E+00
		Cs-134	<6.46E+00	0.00E+00	6.46E+00
		Cs-137	<4.58E+00	0.00E+00	4.58E+00
		BaLa-140	<1.13E+01	0.00E+00	1.13E+01
		Be-7	<4.63E+01	0.00E+00	4.63E+01
		K-40	1.88E+02	5.38E+01	9.61E+00
		H3GW	<-7.8E+01	0.00E+00	1.83E+02

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
481134	8/8/2018 - 8/8/2018	Mn-54	<5.70E+00	0.00E+00	5.70E+00
		Co-58	<5.19E+00	0.00E+00	5.19E+00
		Fe-59	<1.07E+01	0.00E+00	1.07E+01
		Co-60	<8.02E+00	0.00E+00	8.02E+00
		Zn-65	<8.15E+00	0.00E+00	8.15E+00
		Zr-95	<8.63E+00	0.00E+00	8.63E+00
		Nb-95	<6.73E+00	0.00E+00	6.73E+00
		I-131	<7.71E+00	0.00E+00	7.71E+00
		Cs-134	<6.38E+00	0.00E+00	6.38E+00
		Cs-137	<6.27E+00	0.00E+00	6.27E+00
		BaLa-140	<1.17E+01	0.00E+00	1.17E+01
		Be-7	<4.34E+01	0.00E+00	4.34E+01
		K-40	1.18E+02	6.37E+01	8.45E+01
		H3GW	<-1.1E+01	0.00E+00	1.80E+02

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
481204	11/14/2018 - 11/14/2018	Mn-54	<5.32E+00	0.00E+00	5.32E+00
		Co-58	<4.79E+00	0.00E+00	4.79E+00
		Fe-59	<8.33E+00	0.00E+00	8.33E+00
		Co-60	<5.83E+00	0.00E+00	5.83E+00
		Zn-65	<1.03E+01	0.00E+00	1.03E+01
		Zr-95	<9.17E+00	0.00E+00	9.17E+00
		Nb-95	<5.32E+00	0.00E+00	5.32E+00
		I-131	<6.71E+00	0.00E+00	6.71E+00
		Cs-134	<5.71E+00	0.00E+00	5.71E+00
		Cs-137	<4.52E+00	0.00E+00	4.52E+00
		BaLa-140	<9.64E+00	0.00E+00	9.64E+00
		Be-7	<4.63E+01	0.00E+00	4.63E+01
		K-40	5.53E+01	4.85E+01	7.32E+01
		H3GW	<4.03E+01	0.00E+00	1.85E+02

Sample Point 72 [ INDICATOR - SE @ 0.2 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
467124	2/19/2018 - 2/19/2018	Mn-54	<5.48E+00	0.00E+00	5.48E+00
		Co-58	<5.15E+00	0.00E+00	5.15E+00
		Fe-59	<1.11E+01	0.00E+00	1.11E+01
		Co-60	<5.44E+00	0.00E+00	5.44E+00
		Zn-65	<1.24E+01	0.00E+00	1.24E+01
		Zr-95	<1.14E+01	0.00E+00	1.14E+01
		Nb-95	<8.01E+00	0.00E+00	8.01E+00
		I-131	<8.87E+00	0.00E+00	8.87E+00
		Cs-134	<5.92E+00	0.00E+00	5.92E+00
		Cs-137	<6.59E+00	0.00E+00	6.59E+00
		BaLa-140	<1.17E+01	0.00E+00	1.17E+01
		Be-7	<4.68E+01	0.00E+00	4.68E+01
		K-40	<9.46E+01	0.00E+00	9.46E+01



# HARRIS Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: GROUND WATER Concentration (Activity): pCi/l

Sample Point 72 [ INDICATOR - SE @ 0.2 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
467124	2/19/2018 - 2/19/2018	H3GW	<-1.4E+01	0.00E+00	1.86E+02

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
474250	5/8/2018 - 5/8/2018	Mn-54	<7.45E+00	0.00E+00	7.45E+00
		Co-58	<5.32E+00	0.00E+00	5.32E+00
		Fe-59	<1.12E+01	0.00E+00	1.12E+01
		Co-60	<6.50E+00	0.00E+00	6.50E+00
		Zn-65	<1.33E+01	0.00E+00	1.33E+01
		Zr-95	<1.14E+01	0.00E+00	1.14E+01
		Nb-95	<8.19E+00	0.00E+00	8.19E+00
		I-131	<1.16E+01	0.00E+00	1.16E+01
		Cs-134	<6.36E+00	0.00E+00	6.36E+00
		Cs-137	<6.03E+00	0.00E+00	6.03E+00
		BaLa-140	<6.96E+00	0.00E+00	6.96E+00
		Be-7	<4.72E+01	0.00E+00	4.72E+01
		K-40	6.55E+01	5.57E+01	8.49E+01
		H3GW	<3.07E+01	0.00E+00	1.84E+02

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
481135	8/7/2018 - 8/7/2018	Mn-54	<6.20E+00	0.00E+00	6.20E+00
		Co-58	<5.48E+00	0.00E+00	5.48E+00
		Fe-59	<1.23E+01	0.00E+00	1.23E+01
		Co-60	<6.31E+00	0.00E+00	6.31E+00
		Zn-65	<1.01E+01	0.00E+00	1.01E+01
		Zr-95	<9.58E+00	0.00E+00	9.58E+00
		Nb-95	<5.05E+00	0.00E+00	5.05E+00
		I-131	<8.80E+00	0.00E+00	8.80E+00
		Cs-134	<6.24E+00	0.00E+00	6.24E+00
		Cs-137	<5.56E+00	0.00E+00	5.56E+00
		BaLa-140	<1.15E+01	0.00E+00	1.15E+01
		Be-7	<4.96E+01	0.00E+00	4.96E+01
		K-40	<8.91E+01	0.00E+00	8.91E+01
		H3GW	<5.81E+01	0.00E+00	1.80E+02

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
481205	11/13/2018 - 11/13/2018	Mn-54	<6.77E+00	0.00E+00	6.77E+00
		Co-58	<6.85E+00	0.00E+00	6.85E+00
		Fe-59	<1.42E+01	0.00E+00	1.42E+01
		Co-60	<5.58E+00	0.00E+00	5.58E+00
		Zn-65	<1.48E+01	0.00E+00	1.48E+01
		Zr-95	<1.20E+01	0.00E+00	1.20E+01
		Nb-95	<7.71E+00	0.00E+00	7.71E+00
		I-131	<1.19E+01	0.00E+00	1.19E+01
		Cs-134	<6.99E+00	0.00E+00	6.99E+00
		Cs-137	<4.12E+00	0.00E+00	4.12E+00
		BaLa-140	<9.81E+00	0.00E+00	9.81E+00
		Be-7	<5.59E+01	0.00E+00	5.59E+01
		K-40	1.73E+02	8.44E+01	1.15E+02
		H3GW	<2.13E+01	0.00E+00	1.85E+02

## Sample Point 73 [ INDICATOR - S @ 0.2 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
467125	2/19/2018 - 2/19/2018	Mn-54	<4.79E+00	0.00E+00	4.79E+00
		Co-58	<7.07E+00	0.00E+00	7.07E+00
		Fe-59	<1.09E+01	0.00E+00	1.09E+01
		Co-60	<5.86E+00	0.00E+00	5.86E+00
		Zn-65	<1.20E+01	0.00E+00	1.20E+01
		Zr-95	<6.25E+00	0.00E+00	6.25E+00
		Nb-95	<6.66E+00	0.00E+00	6.66E+00
		I-131	<9.89E+00	0.00E+00	9.89E+00
		Cs-134	<5.65E+00	0.00E+00	5.65E+00
		Cs-137	<5.38E+00	0.00E+00	5.38E+00
		BaLa-140	<8.66E+00	0.00E+00	8.66E+00
		Be-7	<4.11E+01	0.00E+00	4.11E+01
		K-40	9.29E+01	6.48E+01	9.43E+01



# HARRIS Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: GROUND WATER Concentration (Activity): pCi/l

Sample Point 73 [ INDICATOR - S @ 0.2 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
467125	2/19/2018 - 2/19/2018	H3GW	<-4.7E+01	0.00E+00	1.85E+02

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
474251	5/8/2018 - 5/8/2018	Mn-54	<5.72E+00	0.00E+00	5.72E+00
		Co-58	<6.76E+00	0.00E+00	6.76E+00
		Fe-59	<1.04E+01	0.00E+00	1.04E+01
		Co-60	<4.61E+00	0.00E+00	4.61E+00
		Zn-65	<1.21E+01	0.00E+00	1.21E+01
		Zr-95	<1.01E+01	0.00E+00	1.01E+01
		Nb-95	<6.38E+00	0.00E+00	6.38E+00
		I-131	<1.11E+01	0.00E+00	1.11E+01
		Cs-134	<7.22E+00	0.00E+00	7.22E+00
		Cs-137	<5.71E+00	0.00E+00	5.71E+00
		BaLa-140	<1.03E+01	0.00E+00	1.03E+01
		Be-7	<5.30E+01	0.00E+00	5.30E+01
		K-40	1.66E+02	6.38E+01	6.54E+01
		H3GW	<-7.3E+01	0.00E+00	1.83E+02

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
481136	8/6/2018 - 8/6/2018	Mn-54	<5.34E+00	0.00E+00	5.34E+00
		Co-58	<4.88E+00	0.00E+00	4.88E+00
		Fe-59	<1.19E+01	0.00E+00	1.19E+01
		Co-60	<4.83E+00	0.00E+00	4.83E+00
		Zn-65	<1.19E+01	0.00E+00	1.19E+01
		Zr-95	<8.53E+00	0.00E+00	8.53E+00
		Nb-95	<4.21E+00	0.00E+00	4.21E+00
		I-131	<8.35E+00	0.00E+00	8.35E+00
		Cs-134	<5.52E+00	0.00E+00	5.52E+00
		Cs-137	<5.69E+00	0.00E+00	5.69E+00
		BaLa-140	<9.72E+00	0.00E+00	9.72E+00
		Be-7	<3.61E+01	0.00E+00	3.61E+01
		K-40	4.45E+01	3.80E+01	5.51E+01
		H3GW	<2.92E+01	0.00E+00	1.81E+02

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
481206	11/13/2018 - 11/13/2018	Mn-54	<3.79E+00	0.00E+00	3.79E+00
		Co-58	<3.55E+00	0.00E+00	3.55E+00
		Fe-59	<8.54E+00	0.00E+00	8.54E+00
		Co-60	<4.30E+00	0.00E+00	4.30E+00
		Zn-65	<5.92E+00	0.00E+00	5.92E+00
		Zr-95	<8.09E+00	0.00E+00	8.09E+00
		Nb-95	<6.55E+00	0.00E+00	6.55E+00
		I-131	<9.14E+00	0.00E+00	9.14E+00
		Cs-134	<4.02E+00	0.00E+00	4.02E+00
		Cs-137	<5.40E+00	0.00E+00	5.40E+00
		BaLa-140	<1.11E+01	0.00E+00	1.11E+01
		Be-7	<4.46E+01	0.00E+00	4.46E+01
		K-40	4.51E+01	4.65E+01	7.41E+01
		H3GW	<-1.3E+02	0.00E+00	1.84E+02

## Sample Point 74 [ INDICATOR - SSE @ 0.2 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
467126	2/20/2018 - 2/20/2018	Mn-54	<4.96E+00	0.00E+00	4.96E+00
		Co-58	<6.39E+00	0.00E+00	6.39E+00
		Fe-59	<1.25E+01	0.00E+00	1.25E+01
		Co-60	<5.53E+00	0.00E+00	5.53E+00
		Zn-65	<1.41E+01	0.00E+00	1.41E+01
		Zr-95	<8.08E+00	0.00E+00	8.08E+00
		Nb-95	<6.89E+00	0.00E+00	6.89E+00
		I-131	<9.34E+00	0.00E+00	9.34E+00
		Cs-134	<4.69E+00	0.00E+00	4.69E+00
		Cs-137	<5.61E+00	0.00E+00	5.61E+00
		BaLa-140	<7.87E+00	0.00E+00	7.87E+00
		Be-7	<4.17E+01	0.00E+00	4.17E+01
		K-40	1.26E+02	7.61E+01	1.10E+02



# HARRIS Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: GROUND WATER Concentration (Activity): pCi/l

Sample Point 74 [ INDICATOR - SSE @ 0.2 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
467126	2/20/2018 - 2/20/2018	H3GW	<-1.4E+01	0.00E+00	1.85E+02

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
474252	5/9/2018 - 5/9/2018	Mn-54	<5.53E+00	0.00E+00	5.53E+00
		Co-58	<5.31E+00	0.00E+00	5.31E+00
		Fe-59	<1.33E+01	0.00E+00	1.33E+01
		Co-60	<3.84E+00	0.00E+00	3.84E+00
		Zn-65	<1.17E+01	0.00E+00	1.17E+01
		Zr-95	<9.66E+00	0.00E+00	9.66E+00
		Nb-95	<5.44E+00	0.00E+00	5.44E+00
		I-131	<9.06E+00	0.00E+00	9.06E+00
		Cs-134	<5.96E+00	0.00E+00	5.96E+00
		Cs-137	<5.73E+00	0.00E+00	5.73E+00
		BaLa-140	<9.50E+00	0.00E+00	9.50E+00
		Be-7	<5.28E+01	0.00E+00	5.28E+01
		K-40	5.41E+01	5.24E+01	8.18E+01
		H3GW	<3.53E+01	0.00E+00	1.83E+02

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
481137	8/8/2018 - 8/8/2018	Mn-54	<5.71E+00	0.00E+00	5.71E+00
		Co-58	<5.25E+00	0.00E+00	5.25E+00
		Fe-59	<1.04E+01	0.00E+00	1.04E+01
		Co-60	<3.04E+00	0.00E+00	3.04E+00
		Zn-65	<1.03E+01	0.00E+00	1.03E+01
		Zr-95	<9.55E+00	0.00E+00	9.55E+00
		Nb-95	<5.54E+00	0.00E+00	5.54E+00
		I-131	<7.41E+00	0.00E+00	7.41E+00
		Cs-134	<6.80E+00	0.00E+00	6.80E+00
		Cs-137	<3.42E+00	0.00E+00	3.42E+00
		BaLa-140	<8.94E+00	0.00E+00	8.94E+00
		Be-7	<4.52E+01	0.00E+00	4.52E+01
		K-40	8.43E+01	5.31E+01	7.23E+01
		H3GW	<3.21E+01	0.00E+00	1.84E+02

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
481207	11/14/2018 - 11/14/2018	Mn-54	<5.10E+00	0.00E+00	5.10E+00
		Co-58	<4.49E+00	0.00E+00	4.49E+00
		Fe-59	<9.66E+00	0.00E+00	9.66E+00
		Co-60	<4.96E+00	0.00E+00	4.96E+00
		Zn-65	<1.33E+01	0.00E+00	1.33E+01
		Zr-95	<7.84E+00	0.00E+00	7.84E+00
		Nb-95	<6.05E+00	0.00E+00	6.05E+00
		I-131	<6.92E+00	0.00E+00	6.92E+00
		Cs-134	<5.71E+00	0.00E+00	5.71E+00
		Cs-137	<5.36E+00	0.00E+00	5.36E+00
		BaLa-140	<9.21E+00	0.00E+00	9.21E+00
		Be-7	<4.68E+01	0.00E+00	4.68E+01
		K-40	<9.29E+01	0.00E+00	9.29E+01
		H3GW	<-6.6E+01	0.00E+00	1.84E+02

Sample Point 75 [ INDICATOR - ESE @ 0.1 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
467127	2/20/2018 - 2/20/2018	Mn-54	<6.34E+00	0.00E+00	6.34E+00
		Co-58	<5.13E+00	0.00E+00	5.13E+00
		Fe-59	<1.34E+01	0.00E+00	1.34E+01
		Co-60	<5.95E+00	0.00E+00	5.95E+00
		Zn-65	<1.12E+01	0.00E+00	1.12E+01
		Zr-95	<1.05E+01	0.00E+00	1.05E+01
		Nb-95	<6.87E+00	0.00E+00	6.87E+00
		I-131	<9.07E+00	0.00E+00	9.07E+00
		Cs-134	<5.46E+00	0.00E+00	5.46E+00
		Cs-137	<6.46E+00	0.00E+00	6.46E+00
		BaLa-140	<7.81E+00	0.00E+00	7.81E+00
		Be-7	<3.64E+01	0.00E+00	3.64E+01
		K-40	1.11E+02	5.58E+01	6.72E+01



# HARRIS Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: GROUND WATER Concentration (Activity): pCi/l

Sample Point 75 [ INDICATOR - ESE @ 0.1 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
467127	2/20/2018 - 2/20/2018	H3GW	<8.69E+01	0.00E+00	1.72E+02

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
474253	5/10/2018 - 5/10/2018	Mn-54	<6.02E+00	0.00E+00	6.02E+00
		Co-58	<5.81E+00	0.00E+00	5.81E+00
		Fe-59	<1.38E+01	0.00E+00	1.38E+01
		Co-60	<4.83E+00	0.00E+00	4.83E+00
		Zn-65	<1.07E+01	0.00E+00	1.07E+01
		Zr-95	<9.47E+00	0.00E+00	9.47E+00
		Nb-95	<6.97E+00	0.00E+00	6.97E+00
		I-131	<7.32E+00	0.00E+00	7.32E+00
		Cs-134	<7.10E+00	0.00E+00	7.10E+00
		Cs-137	<5.85E+00	0.00E+00	5.85E+00
		BaLa-140	<1.06E+01	0.00E+00	1.06E+01
		Be-7	<4.33E+01	0.00E+00	4.33E+01
		K-40	9.91E+01	5.49E+01	7.15E+01
		H3GW	<-3.8E+01	0.00E+00	1.83E+02

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
481138	8/7/2018 - 8/7/2018	Mn-54	<4.20E+00	0.00E+00	4.20E+00
		Co-58	<5.41E+00	0.00E+00	5.41E+00
		Fe-59	<7.81E+00	0.00E+00	7.81E+00
		Co-60	<7.03E+00	0.00E+00	7.03E+00
		Zn-65	<1.36E+01	0.00E+00	1.36E+01
		Zr-95	<1.02E+01	0.00E+00	1.02E+01
		Nb-95	<6.24E+00	0.00E+00	6.24E+00
		I-131	<8.33E+00	0.00E+00	8.33E+00
		Cs-134	<5.79E+00	0.00E+00	5.79E+00
		Cs-137	<5.22E+00	0.00E+00	5.22E+00
		BaLa-140	<5.64E+00	0.00E+00	5.64E+00
		Be-7	<4.57E+01	0.00E+00	4.57E+01
		K-40	1.61E+02	5.71E+01	4.26E+01
		H3GW	<-5.5E+01	0.00E+00	1.85E+02

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
481208	11/14/2018 - 11/14/2018	Mn-54	<5.31E+00	0.00E+00	5.31E+00
		Co-58	<5.02E+00	0.00E+00	5.02E+00
		Fe-59	<9.75E+00	0.00E+00	9.75E+00
		Co-60	<5.83E+00	0.00E+00	5.83E+00
		Zn-65	<1.43E+01	0.00E+00	1.43E+01
		Zr-95	<8.34E+00	0.00E+00	8.34E+00
		Nb-95	<7.00E+00	0.00E+00	7.00E+00
		I-131	<7.95E+00	0.00E+00	7.95E+00
		Cs-134	<5.47E+00	0.00E+00	5.47E+00
		Cs-137	<5.16E+00	0.00E+00	5.16E+00
		BaLa-140	<6.28E+00	0.00E+00	6.28E+00
		Be-7	<4.72E+01	0.00E+00	4.72E+01
		K-40	<1.06E+02	0.00E+00	1.06E+02
		H3GW	<-2.4E+00	0.00E+00	1.90E+02

## Sample Point 77 [ INDICATOR - S @ 0.4 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
467129	2/21/2018 - 2/21/2018	Mn-54	<5.69E+00	0.00E+00	5.69E+00
		Co-58	<5.66E+00	0.00E+00	5.66E+00
		Fe-59	<1.01E+01	0.00E+00	1.01E+01
		Co-60	<7.00E+00	0.00E+00	7.00E+00
		Zn-65	<1.19E+01	0.00E+00	1.19E+01
		Zr-95	<1.05E+01	0.00E+00	1.05E+01
		Nb-95	<7.06E+00	0.00E+00	7.06E+00
		I-131	<7.48E+00	0.00E+00	7.48E+00
		Cs-134	<5.51E+00	0.00E+00	5.51E+00
		Cs-137	<5.85E+00	0.00E+00	5.85E+00
		BaLa-140	<7.92E+00	0.00E+00	7.92E+00
		Be-7	<3.31E+01	0.00E+00	3.31E+01
		K-40	<1.03E+02	0.00E+00	1.03E+02



# HARRIS Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: GROUND WATER Concentration (Activity): pCi/l

Sample Point 77 [ INDICATOR - S @ 0.4 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
467129	2/21/2018 - 2/21/2018	H3GW	1.74E+02	1.05E+02	1.72E+02

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
474255	5/7/2018 - 5/7/2018	Mn-54	<4.15E+00	0.00E+00	4.15E+00
		Co-58	<5.61E+00	0.00E+00	5.61E+00
		Fe-59	<1.02E+01	0.00E+00	1.02E+01
		Co-60	<5.44E+00	0.00E+00	5.44E+00
		Zn-65	<1.11E+01	0.00E+00	1.11E+01
		Zr-95	<1.12E+01	0.00E+00	1.12E+01
		Nb-95	<5.85E+00	0.00E+00	5.85E+00
		I-131	<9.75E+00	0.00E+00	9.75E+00
		Cs-134	<4.62E+00	0.00E+00	4.62E+00
		Cs-137	<4.72E+00	0.00E+00	4.72E+00
		BaLa-140	<7.42E+00	0.00E+00	7.42E+00
		Be-7	<4.34E+01	0.00E+00	4.34E+01
		K-40	5.11E+01	6.73E+01	1.11E+02
		H3GW	<1.64E+02	0.00E+00	1.81E+02

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
481140	8/6/2018 - 8/6/2018	Mn-54	<5.64E+00	0.00E+00	5.64E+00
		Co-58	<5.03E+00	0.00E+00	5.03E+00
		Fe-59	<8.96E+00	0.00E+00	8.96E+00
		Co-60	<5.58E+00	0.00E+00	5.58E+00
		Zn-65	<1.36E+01	0.00E+00	1.36E+01
		Zr-95	<1.09E+01	0.00E+00	1.09E+01
		Nb-95	<6.17E+00	0.00E+00	6.17E+00
		I-131	<5.67E+00	0.00E+00	5.67E+00
		Cs-134	<7.18E+00	0.00E+00	7.18E+00
		Cs-137	<4.41E+00	0.00E+00	4.41E+00
		BaLa-140	<1.63E+00	0.00E+00	1.63E+00
		Be-7	<4.32E+01	0.00E+00	4.32E+01
		K-40	<7.43E+01	0.00E+00	7.43E+01
		H3GW	<1.16E+02	0.00E+00	1.85E+02

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
481210	11/14/2018 - 11/14/2018	Mn-54	<5.88E+00	0.00E+00	5.88E+00
		Co-58	<3.62E+00	0.00E+00	3.62E+00
		Fe-59	<9.13E+00	0.00E+00	9.13E+00
		Co-60	<5.84E+00	0.00E+00	5.84E+00
		Zn-65	<1.10E+01	0.00E+00	1.10E+01
		Zr-95	<8.34E+00	0.00E+00	8.34E+00
		Nb-95	<5.96E+00	0.00E+00	5.96E+00
		I-131	<6.41E+00	0.00E+00	6.41E+00
		Cs-134	<5.70E+00	0.00E+00	5.70E+00
		Cs-137	<4.72E+00	0.00E+00	4.72E+00
		BaLa-140	<6.42E+00	0.00E+00	6.42E+00
		Be-7	<3.70E+01	0.00E+00	3.70E+01
		K-40	<9.30E+01	0.00E+00	9.30E+01
		H3GW	<1.39E+02	0.00E+00	1.90E+02

Sample Point 78 [ INDICATOR - S @ 0.5 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
467130	2/21/2018 - 2/21/2018	Mn-54	<5.23E+00	0.00E+00	5.23E+00
		Co-58	<6.66E+00	0.00E+00	6.66E+00
		Fe-59	<6.82E+00	0.00E+00	6.82E+00
		Co-60	<7.02E+00	0.00E+00	7.02E+00
		Zn-65	<8.45E+00	0.00E+00	8.45E+00
		Zr-95	<1.19E+01	0.00E+00	1.19E+01
		Nb-95	<7.59E+00	0.00E+00	7.59E+00
		I-131	<7.28E+00	0.00E+00	7.28E+00
		Cs-134	<6.62E+00	0.00E+00	6.62E+00
		Cs-137	<7.03E+00	0.00E+00	7.03E+00
		BaLa-140	<6.49E+00	0.00E+00	6.49E+00
		Be-7	<4.08E+01	0.00E+00	4.08E+01
		K-40	<1.19E+02	0.00E+00	1.19E+02





# HARRIS Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: GROUND WATER Concentration (Activity): pCi/l

Sample Point 78 [ INDICATOR - S @ 0.5 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
467130	2/21/2018 - 2/21/2018	H3GW	6.76E+02	1.22E+02	1.71E+02

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
474256	5/7/2018 - 5/7/2018	Mn-54	<5.13E+00	0.00E+00	5.13E+00
		Co-58	<6.95E+00	0.00E+00	6.95E+00
		Fe-59	<1.21E+01	0.00E+00	1.21E+01
		Co-60	<4.98E+00	0.00E+00	4.98E+00
		Zn-65	<1.04E+01	0.00E+00	1.04E+01
		Zr-95	<1.02E+01	0.00E+00	1.02E+01
		Nb-95	<5.86E+00	0.00E+00	5.86E+00
		I-131	<8.69E+00	0.00E+00	8.69E+00
		Cs-134	<6.99E+00	0.00E+00	6.99E+00
		Cs-137	<4.72E+00	0.00E+00	4.72E+00
		BaLa-140	<5.92E+00	0.00E+00	5.92E+00
		Be-7	<3.97E+01	0.00E+00	3.97E+01
		K-40	5.94E+01	5.83E+01	9.18E+01
		H3GW	2.99E+02	1.15E+02	1.82E+02

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
481141	8/6/2018 - 8/6/2018	Mn-54	<5.80E+00	0.00E+00	5.80E+00
		Co-58	<6.56E+00	0.00E+00	6.56E+00
		Fe-59	<9.37E+00	0.00E+00	9.37E+00
		Co-60	<5.95E+00	0.00E+00	5.95E+00
		Zn-65	<5.51E+00	0.00E+00	5.51E+00
		Zr-95	<1.01E+01	0.00E+00	1.01E+01
		Nb-95	<6.12E+00	0.00E+00	6.12E+00
		I-131	<8.60E+00	0.00E+00	8.60E+00
		Cs-134	<7.09E+00	0.00E+00	7.09E+00
		Cs-137	<6.77E+00	0.00E+00	6.77E+00
		BaLa-140	<7.83E+00	0.00E+00	7.83E+00
		Be-7	<3.50E+01	0.00E+00	3.50E+01
		K-40	1.39E+02	5.78E+01	5.96E+01
		H3GW	4.89E+02	1.23E+02	1.85E+02

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
481211	11/14/2018 - 11/14/2018	Mn-54	<5.70E+00	0.00E+00	5.69E+00
		Co-58	<4.68E+00	0.00E+00	4.68E+00
		Fe-59	<9.44E+00	0.00E+00	9.44E+00
		Co-60	<5.61E+00	0.00E+00	5.61E+00
		Zn-65	<1.38E+01	0.00E+00	1.38E+01
		Zr-95	<1.02E+01	0.00E+00	1.02E+01
		Nb-95	<6.75E+00	0.00E+00	6.75E+00
		I-131	<1.01E+01	0.00E+00	1.01E+01
		Cs-134	<5.64E+00	0.00E+00	5.64E+00
		Cs-137	<6.58E+00	0.00E+00	6.58E+00
		BaLa-140	<8.60E+00	0.00E+00	8.60E+00
		Be-7	<5.46E+01	0.00E+00	5.46E+01
		K-40	9.98E+01	6.79E+01	9.94E+01
		H3GW	5.08E+02	1.27E+02	1.90E+02

Sample Point 79 [ INDICATOR - S @ 0.5 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
467131	2/21/2018 - 2/21/2018	Mn-54	<4.49E+00	0.00E+00	4.49E+00
		Co-58	<6.03E+00	0.00E+00	6.03E+00
		Fe-59	<9.48E+00	0.00E+00	9.48E+00
		Co-60	<6.04E+00	0.00E+00	6.04E+00
		Zn-65	<1.07E+01	0.00E+00	1.07E+01
		Zr-95	<8.05E+00	0.00E+00	8.05E+00
		Nb-95	<5.12E+00	0.00E+00	5.12E+00
		I-131	<7.95E+00	0.00E+00	7.95E+00
		Cs-134	<5.51E+00	0.00E+00	5.51E+00
		Cs-137	<4.57E+00	0.00E+00	4.57E+00
		BaLa-140	<6.13E+00	0.00E+00	6.13E+00
		Be-7	<5.02E+01	0.00E+00	5.02E+01
		K-40	9.86E+01	4.35E+01	3.67E+01



# HARRIS Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: GROUND WATER Concentration (Activity): pCi/l

Sample Point 79 [ INDICATOR - S @ 0.5 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
467131	2/21/2018 - 2/21/2018	H3GW	3.91E+02	1.13E+02	1.71E+02

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
474257	5/8/2018 - 5/8/2018	Mn-54	<3.20E+00	0.00E+00	3.20E+00
		Co-58	<3.15E+00	0.00E+00	3.15E+00
		Fe-59	<6.31E+00	0.00E+00	6.31E+00
		Co-60	<3.16E+00	0.00E+00	3.16E+00
		Zn-65	<5.72E+00	0.00E+00	5.72E+00
		Zr-95	<6.41E+00	0.00E+00	6.41E+00
		Nb-95	<3.50E+00	0.00E+00	3.50E+00
		I-131	<8.48E+00	0.00E+00	8.48E+00
		Cs-134	<3.66E+00	0.00E+00	3.66E+00
		Cs-137	<3.59E+00	0.00E+00	3.59E+00
		BaLa-140	<5.69E+00	0.00E+00	5.69E+00
		Be-7	<2.28E+01	0.00E+00	2.28E+01
		K-40	5.52E+01	3.56E+01	5.34E+01
		H3GW	2.80E+02	1.15E+02	1.82E+02

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
481142	8/6/2018 - 8/6/2018	Mn-54	<5.28E+00	0.00E+00	5.28E+00
		Co-58	<4.42E+00	0.00E+00	4.42E+00
		Fe-59	<1.15E+01	0.00E+00	1.15E+01
		Co-60	<8.06E+00	0.00E+00	8.06E+00
		Zn-65	<1.27E+01	0.00E+00	1.27E+01
		Zr-95	<1.10E+01	0.00E+00	1.10E+01
		Nb-95	<7.53E+00	0.00E+00	7.53E+00
		I-131	<8.21E+00	0.00E+00	8.21E+00
		Cs-134	<6.14E+00	0.00E+00	6.14E+00
		Cs-137	<4.89E+00	0.00E+00	4.89E+00
		BaLa-140	<7.95E+00	0.00E+00	7.95E+00
		Be-7	<5.12E+01	0.00E+00	5.12E+01
		K-40	1.49E+02	7.16E+01	9.27E+01
		H3GW	2.73E+02	1.16E+02	1.85E+02

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
481212	11/14/2018 - 11/14/2018	Mn-54	<5.53E+00	0.00E+00	5.53E+00
		Co-58	<6.98E+00	0.00E+00	6.98E+00
		Fe-59	<9.06E+00	0.00E+00	9.06E+00
		Co-60	<7.09E+00	0.00E+00	7.09E+00
		Zn-65	<1.12E+01	0.00E+00	1.12E+01
		Zr-95	<9.97E+00	0.00E+00	9.97E+00
		Nb-95	<5.28E+00	0.00E+00	5.28E+00
		I-131	<8.08E+00	0.00E+00	8.08E+00
		Cs-134	<5.01E+00	0.00E+00	5.01E+00
		Cs-137	<6.21E+00	0.00E+00	6.21E+00
		BaLa-140	<8.06E+00	0.00E+00	8.06E+00
		Be-7	<4.31E+01	0.00E+00	4.31E+01
		K-40	<9.53E+01	0.00E+00	9.53E+01
		H3GW	1.95E+02	1.17E+02	1.90E+02

Sample Point 80 [ INDICATOR - S @ 0.6 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
467132	2/21/2018 - 2/21/2018	Mn-54	<3.51E+00	0.00E+00	3.51E+00
		Co-58	<6.05E+00	0.00E+00	6.05E+00
		Fe-59	<8.34E+00	0.00E+00	8.34E+00
		Co-60	<5.84E+00	0.00E+00	5.84E+00
		Zn-65	<1.04E+01	0.00E+00	1.04E+01
		Zr-95	<1.09E+01	0.00E+00	1.09E+01
		Nb-95	<6.67E+00	0.00E+00	6.67E+00
		I-131	<7.77E+00	0.00E+00	7.77E+00
		Cs-134	<5.70E+00	0.00E+00	5.70E+00
		Cs-137	<5.70E+00	0.00E+00	5.70E+00
		BaLa-140	<8.21E+00	0.00E+00	8.21E+00
		Be-7	<3.94E+01	0.00E+00	3.94E+01
		K-40	4.14E+01	5.02E+01	8.15E+01



# HARRIS Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: GROUND WATER Concentration (Activity): pCi/l

Sample Point 80 [ INDICATOR - S @ 0.6 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
467132	2/21/2018 - 2/21/2018	H3GW	3.71E+02	1.12E+02	1.72E+02

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
474258	5/8/2018 - 5/8/2018	Mn-54	<4.51E+00	0.00E+00	4.51E+00
		Co-58	<6.45E+00	0.00E+00	6.45E+00
		Fe-59	<1.19E+01	0.00E+00	1.19E+01
		Co-60	<6.71E+00	0.00E+00	6.71E+00
		Zn-65	<1.13E+01	0.00E+00	1.13E+01
		Zr-95	<9.34E+00	0.00E+00	9.34E+00
		Nb-95	<6.08E+00	0.00E+00	6.08E+00
		I-131	<8.72E+00	0.00E+00	8.72E+00
		Cs-134	<6.58E+00	0.00E+00	6.58E+00
		Cs-137	<4.79E+00	0.00E+00	4.79E+00
		BaLa-140	<9.99E+00	0.00E+00	9.99E+00
		Be-7	<4.65E+01	0.00E+00	4.65E+01
		K-40	6.60E+01	6.06E+01	9.47E+01
		H3GW	3.11E+02	1.15E+02	1.81E+02

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
481143	8/6/2018 - 8/6/2018	Mn-54	<5.49E+00	0.00E+00	5.49E+00
		Co-58	<4.94E+00	0.00E+00	4.94E+00
		Fe-59	<8.46E+00	0.00E+00	8.46E+00
		Co-60	<7.00E+00	0.00E+00	7.00E+00
		Zn-65	<7.61E+00	0.00E+00	7.61E+00
		Zr-95	<1.02E+01	0.00E+00	1.02E+01
		Nb-95	<7.63E+00	0.00E+00	7.63E+00
		I-131	<5.70E+00	0.00E+00	5.70E+00
		Cs-134	<5.51E+00	0.00E+00	5.51E+00
		Cs-137	<6.61E+00	0.00E+00	6.61E+00
		BaLa-140	<6.15E+00	0.00E+00	6.15E+00
		Be-7	<4.33E+01	0.00E+00	4.33E+01
		K-40	<9.89E+01	0.00E+00	9.89E+01
		H3GW	2.78E+02	1.18E+02	1.88E+02

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
481213	11/14/2018 - 11/14/2018	Mn-54	<5.48E+00	0.00E+00	5.48E+00
		Co-58	<4.68E+00	0.00E+00	4.68E+00
		Fe-59	<9.41E+00	0.00E+00	9.41E+00
		Co-60	<3.96E+00	0.00E+00	3.96E+00
		Zn-65	<1.14E+01	0.00E+00	1.14E+01
		Zr-95	<8.63E+00	0.00E+00	8.63E+00
		Nb-95	<4.75E+00	0.00E+00	4.75E+00
		I-131	<8.73E+00	0.00E+00	8.73E+00
		Cs-134	<6.79E+00	0.00E+00	6.79E+00
		Cs-137	<5.53E+00	0.00E+00	5.53E+00
		BaLa-140	<6.65E+00	0.00E+00	6.65E+00
		Be-7	<3.87E+01	0.00E+00	3.87E+01
		K-40	<8.58E+01	0.00E+00	8.58E+01
		H3GW	2.25E+02	1.17E+02	1.90E+02

Sample Point 81 [ INDICATOR - S @ 0.6 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
467133	2/21/2018 - 2/21/2018	Mn-54	<5.58E+00	0.00E+00	5.58E+00
		Co-58	<6.08E+00	0.00E+00	6.08E+00
		Fe-59	<1.04E+01	0.00E+00	1.04E+01
		Co-60	<7.03E+00	0.00E+00	7.03E+00
		Zn-65	<1.24E+01	0.00E+00	1.24E+01
		Zr-95	<1.06E+01	0.00E+00	1.06E+01
		Nb-95	<6.46E+00	0.00E+00	6.46E+00
		I-131	<7.06E+00	0.00E+00	7.06E+00
		Cs-134	<5.78E+00	0.00E+00	5.78E+00
		Cs-137	<5.79E+00	0.00E+00	5.79E+00
		BaLa-140	<7.93E+00	0.00E+00	7.93E+00
		Be-7	<3.56E+01	0.00E+00	3.56E+01
		K-40	7.54E+01	6.01E+01	9.05E+01



# HARRIS Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: GROUND WATER Concentration (Activity): pCi/l

Sample Point 81 [ INDICATOR - S @ 0.6 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
467133	2/21/2018 - 2/21/2018	H3GW	4.20E+02	1.14E+02	1.72E+02

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
474259	5/8/2018 - 5/8/2018	Mn-54	<5.13E+00	0.00E+00	5.13E+00
		Co-58	<4.65E+00	0.00E+00	4.65E+00
		Fe-59	<1.27E+01	0.00E+00	1.27E+01
		Co-60	<4.98E+00	0.00E+00	4.98E+00
		Zn-65	<8.90E+00	0.00E+00	8.90E+00
		Zr-95	<9.82E+00	0.00E+00	9.82E+00
		Nb-95	<5.86E+00	0.00E+00	5.86E+00
		I-131	<1.04E+01	0.00E+00	1.04E+01
		Cs-134	<6.17E+00	0.00E+00	6.17E+00
		Cs-137	<5.70E+00	0.00E+00	5.70E+00
		BaLa-140	<8.64E+00	0.00E+00	8.64E+00
		Be-7	<5.09E+01	0.00E+00	5.09E+01
		K-40	2.67E+01	4.74E+01	8.10E+01
		H3GW	2.68E+02	1.14E+02	1.82E+02

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
481144	8/6/2018 - 8/6/2018	Mn-54	<4.55E+00	0.00E+00	4.55E+00
		Co-58	<4.75E+00	0.00E+00	4.75E+00
		Fe-59	<1.28E+01	0.00E+00	1.28E+01
		Co-60	<7.74E+00	0.00E+00	7.74E+00
		Zn-65	<1.07E+01	0.00E+00	1.07E+01
		Zr-95	<1.08E+01	0.00E+00	1.08E+01
		Nb-95	<5.69E+00	0.00E+00	5.69E+00
		I-131	<9.39E+00	0.00E+00	9.39E+00
		Cs-134	<5.08E+00	0.00E+00	5.08E+00
		Cs-137	<4.90E+00	0.00E+00	4.90E+00
		BaLa-140	<8.39E+00	0.00E+00	8.39E+00
		Be-7	<4.94E+01	0.00E+00	4.94E+01
		K-40	<8.31E+01	0.00E+00	8.31E+01
		H3GW	3.21E+02	1.17E+02	1.85E+02

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
481214	11/14/2018 - 11/14/2018	Mn-54	<4.75E+00	0.00E+00	4.75E+00
		Co-58	<4.44E+00	0.00E+00	4.44E+00
		Fe-59	<9.22E+00	0.00E+00	9.22E+00
		Co-60	<3.74E+00	0.00E+00	3.74E+00
		Zn-65	<8.53E+00	0.00E+00	8.53E+00
		Zr-95	<9.36E+00	0.00E+00	9.36E+00
		Nb-95	<4.88E+00	0.00E+00	4.88E+00
		I-131	<1.10E+01	0.00E+00	1.10E+01
		Cs-134	<4.96E+00	0.00E+00	4.96E+00
		Cs-137	<3.53E+00	0.00E+00	3.53E+00
		BaLa-140	<6.46E+00	0.00E+00	6.46E+00
		Be-7	<3.12E+01	0.00E+00	3.12E+01
		K-40	1.15E+02	3.33E+01	4.98E+01
		H3GW	2.88E+02	1.19E+02	1.90E+02

Sample Point 82 [ INDICATOR - S @ 0.6 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
467134	2/21/2018 - 2/21/2018	Mn-54	<3.09E+00	0.00E+00	3.09E+00
		Co-58	<3.54E+00	0.00E+00	3.54E+00
		Fe-59	<7.45E+00	0.00E+00	7.45E+00
		Co-60	<3.50E+00	0.00E+00	3.50E+00
		Zn-65	<6.44E+00	0.00E+00	6.44E+00
		Zr-95	<6.53E+00	0.00E+00	6.53E+00
		Nb-95	<3.76E+00	0.00E+00	3.76E+00
		I-131	<4.84E+00	0.00E+00	4.84E+00
		Cs-134	<4.39E+00	0.00E+00	4.39E+00
		Cs-137	<2.60E+00	0.00E+00	2.60E+00
		BaLa-140	<5.27E+00	0.00E+00	5.27E+00
		Be-7	<3.12E+01	0.00E+00	3.12E+01
		K-40	6.23E+01	3.92E+01	5.78E+01



# HARRIS Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: GROUND WATER Concentration (Activity): pCi/l

Sample Point 82 [ INDICATOR - S @ 0.6 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
467134	2/21/2018 - 2/21/2018	H3GW	<9.86E+01	0.00E+00	1.72E+02

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
474260	5/8/2018 - 5/8/2018	Mn-54	<5.55E+00	0.00E+00	5.55E+00
		Co-58	<5.44E+00	0.00E+00	5.44E+00
		Fe-59	<7.59E+00	0.00E+00	7.59E+00
		Co-60	<5.28E+00	0.00E+00	5.28E+00
		Zn-65	<1.08E+01	0.00E+00	1.08E+01
		Zr-95	<9.14E+00	0.00E+00	9.14E+00
		Nb-95	<4.41E+00	0.00E+00	4.41E+00
		I-131	<1.11E+01	0.00E+00	1.11E+01
		Cs-134	<5.53E+00	0.00E+00	5.53E+00
		Cs-137	<5.52E+00	0.00E+00	5.52E+00
		BaLa-140	<1.02E+01	0.00E+00	1.02E+01
		Be-7	<3.72E+01	0.00E+00	3.72E+01
		K-40	<9.03E+01	0.00E+00	9.03E+01
		H3GW	<1.65E+02	0.00E+00	1.82E+02

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
481145	8/6/2018 - 8/6/2018	Mn-54	<5.86E+00	0.00E+00	5.86E+00
		Co-58	<5.10E+00	0.00E+00	5.10E+00
		Fe-59	<1.25E+01	0.00E+00	1.25E+01
		Co-60	<4.96E+00	0.00E+00	4.96E+00
		Zn-65	<1.37E+01	0.00E+00	1.37E+01
		Zr-95	<8.88E+00	0.00E+00	8.88E+00
		Nb-95	<5.80E+00	0.00E+00	5.80E+00
		I-131	<7.27E+00	0.00E+00	7.27E+00
		Cs-134	<6.78E+00	0.00E+00	6.78E+00
		Cs-137	<4.01E+00	0.00E+00	4.01E+00
		BaLa-140	<6.99E+00	0.00E+00	6.99E+00
		Be-7	<3.81E+01	0.00E+00	3.81E+01
		K-40	<1.06E+02	0.00E+00	1.06E+02
		H3GW	<9.28E+01	0.00E+00	1.84E+02

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
481215	11/13/2018 - 11/13/2018	Mn-54	<4.59E+00	0.00E+00	4.59E+00
		Co-58	<4.53E+00	0.00E+00	4.53E+00
		Fe-59	<9.68E+00	0.00E+00	9.68E+00
		Co-60	<4.44E+00	0.00E+00	4.44E+00
		Zn-65	<1.11E+01	0.00E+00	1.11E+01
		Zr-95	<9.10E+00	0.00E+00	9.10E+00
		Nb-95	<7.75E+00	0.00E+00	7.75E+00
		I-131	<1.15E+01	0.00E+00	1.15E+01
		Cs-134	<5.50E+00	0.00E+00	5.50E+00
		Cs-137	<4.39E+00	0.00E+00	4.39E+00
		BaLa-140	<1.06E+01	0.00E+00	1.06E+01
		Be-7	<4.78E+01	0.00E+00	4.78E+01
		K-40	4.87E+01	5.18E+01	8.28E+01
		H3GW	<3.37E+01	0.00E+00	1.90E+02

## Sample Point 83 [ INDICATOR - SSW @ 1.6 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
467135	2/21/2018 - 2/21/2018	Mn-54	<5.28E+00	0.00E+00	5.28E+00
		Co-58	<7.08E+00	0.00E+00	7.08E+00
		Fe-59	<1.34E+01	0.00E+00	1.34E+01
		Co-60	<4.15E+00	0.00E+00	4.15E+00
		Zn-65	<1.44E+01	0.00E+00	1.44E+01
		Zr-95	<9.41E+00	0.00E+00	9.41E+00
		Nb-95	<7.47E+00	0.00E+00	7.47E+00
		I-131	<8.40E+00	0.00E+00	8.40E+00
		Cs-134	<8.16E+00	0.00E+00	8.16E+00
		Cs-137	<8.16E+00	0.00E+00	8.16E+00
		BaLa-140	<7.53E+00	0.00E+00	7.53E+00
		Be-7	<4.85E+01	0.00E+00	4.85E+01
		K-40	<9.53E+01	0.00E+00	9.53E+01



# HARRIS Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: GROUND WATER Concentration (Activity): pCi/l

Sample Point 83 [ INDICATOR - SSW @ 1.6 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
467135	2/21/2018 - 2/21/2018	H3GW	1.16E+03	1.36E+02	1.72E+02
474261	5/8/2018 - 5/8/2018	Mn-54	<5.55E+00	0.00E+00	5.55E+00
		Co-58	<6.00E+00	0.00E+00	6.00E+00
		Fe-59	<1.15E+01	0.00E+00	1.15E+01
		Co-60	<5.86E+00	0.00E+00	5.86E+00
		Zn-65	<1.04E+01	0.00E+00	1.04E+01
		Zr-95	<1.16E+01	0.00E+00	1.16E+01
		Nb-95	<6.61E+00	0.00E+00	6.61E+00
		I-131	<1.05E+01	0.00E+00	1.05E+01
		Cs-134	<5.34E+00	0.00E+00	5.34E+00
		Cs-137	<5.81E+00	0.00E+00	5.81E+00
		BaLa-140	<8.50E+00	0.00E+00	8.50E+00
		Be-7	<3.94E+01	0.00E+00	3.94E+01
		K-40	<1.03E+02	0.00E+00	1.03E+02
		H3GW	1.11E+03	1.39E+02	1.82E+02
481146	8/6/2018 - 8/6/2018	Mn-54	<6.46E+00	0.00E+00	6.46E+00
		Co-58	<5.79E+00	0.00E+00	5.79E+00
		Fe-59	<1.18E+01	0.00E+00	1.18E+01
		Co-60	<6.68E+00	0.00E+00	6.68E+00
		Zn-65	<1.44E+01	0.00E+00	1.44E+01
		Zr-95	<9.73E+00	0.00E+00	9.73E+00
		Nb-95	<7.86E+00	0.00E+00	7.86E+00
		I-131	<7.45E+00	0.00E+00	7.45E+00
		Cs-134	<6.45E+00	0.00E+00	6.45E+00
		Cs-137	<7.61E+00	0.00E+00	7.61E+00
		BaLa-140	<7.84E+00	0.00E+00	7.84E+00
		Be-7	<5.41E+01	0.00E+00	5.41E+01
		K-40	<1.19E+02	0.00E+00	1.19E+02
		H3GW	1.05E+03	1.38E+02	1.85E+02
481216	11/13/2018 - 11/13/2018	Mn-54	<5.00E+00	0.00E+00	5.00E+00
		Co-58	<4.94E+00	0.00E+00	4.94E+00
		Fe-59	<1.11E+01	0.00E+00	1.11E+01
		Co-60	<3.95E+00	0.00E+00	3.95E+00
		Zn-65	<8.62E+00	0.00E+00	8.62E+00
		Zr-95	<8.32E+00	0.00E+00	8.32E+00
		Nb-95	<4.65E+00	0.00E+00	4.65E+00
		I-131	<1.20E+01	0.00E+00	1.20E+01
		Cs-134	<4.71E+00	0.00E+00	4.71E+00
		Cs-137	<4.44E+00	0.00E+00	4.44E+00
		BaLa-140	<1.12E+01	0.00E+00	1.12E+01
		Be-7	<3.38E+01	0.00E+00	3.38E+01
		K-40	6.08E+01	3.83E+01	5.40E+01
		H3GW	1.07E+03	1.42E+02	1.90E+02

Media Type: MILK Concentration (Activity): pCi/l

Sample Point 5 [ CONTROL - WNW @ 12 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
461912	1/2/2018 - 1/2/2018	LLI-131	<6.36E-01	0.00E+00	6.36E-01
		I-131	<1.07E+01	0.00E+00	1.07E+01
		Cs-134	<6.91E+00	0.00E+00	6.91E+00
		Cs-137	<6.97E+00	0.00E+00	6.97E+00
		BaLa-140	<8.02E+00	0.00E+00	8.02E+00
		Be-7	<6.26E+01	0.00E+00	6.26E+01
		K-40	1.16E+03	2.05E+02	1.15E+02
464914	2/5/2018 - 2/5/2018	LLI-131	<6.48E-01	0.00E+00	6.48E-01
		I-131	<8.57E+00	0.00E+00	8.57E+00
		Cs-134	<6.67E+00	0.00E+00	6.67E+00
		Cs-137	<8.89E+00	0.00E+00	8.89E+00



# HARRIS Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: MILK Concentration (Activity): pCi/l

Sample Point 5 [ CONTROL - WNW @ 12 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
464914	2/5/2018 - 2/5/2018	BaLa-140	<8.17E+00	0.00E+00	8.17E+00
		Be-7	<3.94E+01	0.00E+00	3.94E+01
		K-40	1.48E+03	2.43E+02	1.30E+02
466333	3/5/2018 - 3/5/2018	LLI-131	<5.49E-01	0.00E+00	5.49E-01
		I-131	<8.29E+00	0.00E+00	8.29E+00
		Cs-134	<8.24E+00	0.00E+00	8.24E+00
		Cs-137	<6.37E+00	0.00E+00	6.37E+00
		BaLa-140	<7.97E+00	0.00E+00	7.97E+00
		Be-7	<4.60E+01	0.00E+00	4.60E+01
		K-40	1.51E+03	2.39E+02	1.09E+02
468381	4/2/2018 - 4/2/2018	LLI-131	<5.80E-01	0.00E+00	5.80E-01
		I-131	<5.90E+00	0.00E+00	5.90E+00
		Cs-134	<5.84E+00	0.00E+00	5.84E+00
		Cs-137	<8.35E+00	0.00E+00	8.35E+00
		BaLa-140	<9.16E+00	0.00E+00	9.16E+00
		Be-7	<5.10E+01	0.00E+00	5.10E+01
		K-40	1.42E+03	2.27E+02	8.20E+01
471103	4/30/2018 - 4/30/2018	LLI-131	<6.23E-01	0.00E+00	6.23E-01
		I-131	<6.76E+00	0.00E+00	6.76E+00
		Cs-134	<8.33E+00	0.00E+00	8.33E+00
		Cs-137	<9.55E+00	0.00E+00	9.55E+00
		BaLa-140	<6.51E+00	0.00E+00	6.51E+00
		Be-7	<5.22E+01	0.00E+00	5.22E+01
		K-40	1.35E+03	2.24E+02	8.04E+01
473574	5/29/2018 - 5/29/2018	LLI-131	<6.49E-01	0.00E+00	6.49E-01
		I-131	<6.17E+00	0.00E+00	6.17E+00
		Cs-134	<8.61E+00	0.00E+00	8.61E+00
		Cs-137	<4.45E+00	0.00E+00	4.45E+00
		BaLa-140	<7.61E+00	0.00E+00	7.61E+00
		Be-7	<4.78E+01	0.00E+00	4.78E+01
		K-40	1.47E+03	2.31E+02	7.44E+01
474460	6/11/2018 - 6/11/2018	LLI-131	<5.37E-01	0.00E+00	5.37E-01
		I-131	<5.72E+00	0.00E+00	5.72E+00
		Cs-134	<6.30E+00	0.00E+00	6.30E+00
		Cs-137	<6.54E+00	0.00E+00	6.54E+00
		BaLa-140	<7.43E+00	0.00E+00	7.43E+00
		Be-7	<4.64E+01	0.00E+00	4.64E+01
		K-40	1.38E+03	2.19E+02	1.73E+01
475150	6/25/2018 - 6/25/2018	LLI-131	<5.99E-01	0.00E+00	5.99E-01
		I-131	<7.01E+00	0.00E+00	7.01E+00
		Cs-134	<8.77E+00	0.00E+00	8.77E+00
		Cs-137	<6.40E+00	0.00E+00	6.40E+00
		BaLa-140	<1.05E+01	0.00E+00	1.05E+01
		Be-7	<3.93E+01	0.00E+00	3.93E+01
		K-40	1.38E+03	2.25E+02	9.41E+01
476298	7/9/2018 - 7/9/2018	LLI-131	<6.35E-01	0.00E+00	6.35E-01
		I-131	<6.62E+00	0.00E+00	6.62E+00
		Cs-134	<8.80E+00	0.00E+00	8.80E+00
		Cs-137	<6.43E+00	0.00E+00	6.43E+00
		BaLa-140	<8.11E+00	0.00E+00	8.11E+00
		Be-7	<5.46E+01	0.00E+00	5.46E+01
		K-40	1.57E+03	2.46E+02	8.40E+01



# HARRIS Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: MILK Concentration (Activity): pCi/l

Sample Point 5 [ CONTROL - WNW @ 12 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
478043	7/23/2018 - 7/23/2018	LLI-131	<6.07E-01	0.00E+00	6.07E-01
		I-131	<6.92E+00	0.00E+00	6.92E+00
		Cs-134	<9.05E+00	0.00E+00	9.05E+00
		Cs-137	<6.29E+00	0.00E+00	6.29E+00
		BaLa-140	<6.31E+00	0.00E+00	6.31E+00
		Be-7	<4.83E+01	0.00E+00	4.83E+01
		K-40	1.52E+03	2.36E+02	7.60E+01
478693	8/6/2018 - 8/6/2018	LLI-131	<4.52E-01	0.00E+00	4.52E-01
		I-131	<1.19E+01	0.00E+00	1.19E+01
		Cs-134	<7.44E+00	0.00E+00	7.44E+00
		Cs-137	<6.54E+00	0.00E+00	6.54E+00
		BaLa-140	<8.03E+00	0.00E+00	8.03E+00
		Be-7	<7.09E+01	0.00E+00	7.09E+01
		K-40	1.21E+03	2.06E+02	8.94E+01
479790	8/20/2018 - 8/20/2018	LLI-131	<6.48E-01	0.00E+00	6.48E-01
		I-131	<6.22E+00	0.00E+00	6.22E+00
		Cs-134	<6.63E+00	0.00E+00	6.63E+00
		Cs-137	<6.40E+00	0.00E+00	6.40E+00
		BaLa-140	<7.73E+00	0.00E+00	7.73E+00
		Be-7	<5.86E+01	0.00E+00	5.86E+01
		K-40	1.54E+03	2.43E+02	1.18E+02
480189	9/4/2018 - 9/4/2018	LLI-131	<6.35E-01	0.00E+00	6.35E-01
		I-131	<7.24E+00	0.00E+00	7.24E+00
		Cs-134	<7.40E+00	0.00E+00	7.40E+00
		Cs-137	<7.36E+00	0.00E+00	7.36E+00
		BaLa-140	<8.97E+00	0.00E+00	8.97E+00
		Be-7	<5.87E+01	0.00E+00	5.87E+01
		K-40	1.43E+03	2.23E+02	1.73E+01
481454	9/17/2018 - 9/17/2018	LLI-131	<6.26E-01	0.00E+00	6.26E-01
		I-131	<7.10E+00	0.00E+00	7.10E+00
		Cs-134	<5.10E+00	0.00E+00	5.10E+00
		Cs-137	<6.85E+00	0.00E+00	6.85E+00
		BaLa-140	<6.39E+00	0.00E+00	6.39E+00
		Be-7	<5.45E+01	0.00E+00	5.45E+01
		K-40	1.45E+03	2.34E+02	1.09E+02
482425	10/1/2018 - 10/1/2018	LLI-131	<5.90E-01	0.00E+00	5.90E-01
		I-131	<6.05E+00	0.00E+00	6.05E+00
		Cs-134	<8.33E+00	0.00E+00	8.33E+00
		Cs-137	<9.23E+00	0.00E+00	9.23E+00
		BaLa-140	<6.49E+00	0.00E+00	6.49E+00
		Be-7	<5.72E+01	0.00E+00	5.72E+01
		K-40	1.45E+03	2.34E+02	8.12E+01
483378	10/15/2018 - 10/15/2018	LLI-131	<5.80E-01	0.00E+00	5.80E-01
		I-131	<6.42E+00	0.00E+00	6.42E+00
		Cs-134	<7.24E+00	0.00E+00	7.24E+00
		Cs-137	<7.33E+00	0.00E+00	7.33E+00
		BaLa-140	<6.07E+00	0.00E+00	6.07E+00
		Be-7	<4.23E+01	0.00E+00	4.23E+01
		K-40	1.54E+03	2.47E+02	1.40E+02
484533	10/29/2018 - 10/29/2018	LLI-131	<5.16E-01	0.00E+00	5.16E-01
		I-131	<6.01E+00	0.00E+00	6.01E+00
		Cs-134	<8.25E+00	0.00E+00	8.25E+00
		Cs-137	<8.21E+00	0.00E+00	8.21E+00
		BaLa-140	<9.55E+00	0.00E+00	9.55E+00





# HARRIS Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: MILK Concentration (Activity): pCi/l

Sample Point 5 [ CONTROL - WNW @ 12 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
484533	10/29/2018 - 10/29/2018	Be-7	<5.17E+01	0.00E+00	5.17E+01
		K-40	1.23E+03	2.23E+02	1.42E+02

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
485412	11/12/2018 - 11/12/2018	LLI-131	<6.29E-01	0.00E+00	6.29E-01
		I-131	<6.27E+00	0.00E+00	6.27E+00
		Cs-134	<8.32E+00	0.00E+00	8.32E+00
		Cs-137	<7.36E+00	0.00E+00	7.36E+00
		BaLa-140	<5.88E+00	0.00E+00	5.88E+00
		Be-7	<5.14E+01	0.00E+00	5.14E+01
		K-40	1.51E+03	2.37E+02	9.80E+01

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
486631	12/11/2018 - 12/11/2018	LLI-131	<6.35E-01	0.00E+00	6.35E-01
		I-131	<7.05E+00	0.00E+00	7.05E+00
		Cs-134	<7.74E+00	0.00E+00	7.74E+00
		Cs-137	<4.51E+00	0.00E+00	4.51E+00
		BaLa-140	<2.34E+00	0.00E+00	2.34E+00
		Be-7	<4.91E+01	0.00E+00	4.91E+01
		K-40	1.60E+03	2.45E+02	9.13E+01

Sample Point 102 [ INDICATOR - W @ 2.82 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
473573	5/29/2018 - 5/29/2018	I-131	<7.16E+00	0.00E+00	7.16E+00
		Cs-134	<9.20E+00	0.00E+00	9.20E+00
		Cs-137	<6.89E+00	0.00E+00	6.89E+00
		BaLa-140	<9.06E+00	0.00E+00	9.06E+00
		Be-7	<7.45E+01	0.00E+00	7.45E+01
		K-40	1.66E+03	2.50E+02	8.34E+01
		LLI-131	<8.75E-01	0.00E+00	8.75E-01

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
474459	6/11/2018 - 6/11/2018	I-131	<7.53E+00	0.00E+00	7.53E+00
		Cs-134	<5.13E+00	0.00E+00	5.13E+00
		Cs-137	<7.75E+00	0.00E+00	7.75E+00
		BaLa-140	<6.13E+00	0.00E+00	6.13E+00
		Be-7	<3.88E+01	0.00E+00	3.88E+01
		K-40	1.87E+03	2.85E+02	1.79E+02
		LLI-131	<5.35E-01	0.00E+00	5.35E-01

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
475149	6/25/2018 - 6/25/2018	I-131	<6.85E+00	0.00E+00	6.85E+00
		Cs-134	<6.88E+00	0.00E+00	6.88E+00
		Cs-137	<6.96E+00	0.00E+00	6.96E+00
		BaLa-140	<2.29E+00	0.00E+00	2.29E+00
		Be-7	<5.89E+01	0.00E+00	5.89E+01
		K-40	1.50E+03	2.30E+02	1.73E+01
		LLI-131	<7.32E-01	0.00E+00	7.32E-01

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
476297	7/9/2018 - 7/9/2018	I-131	<7.43E+00	0.00E+00	7.43E+00
		Cs-134	<4.31E+00	0.00E+00	4.31E+00
		Cs-137	<8.63E+00	0.00E+00	8.63E+00
		BaLa-140	<8.57E+00	0.00E+00	8.57E+00
		Be-7	<5.79E+01	0.00E+00	5.79E+01
		K-40	1.87E+03	2.80E+02	1.17E+02
		LLI-131	<5.58E-01	0.00E+00	5.58E-01

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
478042	7/23/2018 - 7/23/2018	I-131	<5.90E+00	0.00E+00	5.90E+00
		Cs-134	<7.39E+00	0.00E+00	7.39E+00
		Cs-137	<9.01E+00	0.00E+00	9.01E+00
		BaLa-140	<9.04E+00	0.00E+00	9.04E+00
		Be-7	<4.96E+01	0.00E+00	4.96E+01
		K-40	2.07E+03	2.90E+02	1.21E+02
		LLI-131	<6.79E-01	0.00E+00	6.79E-01



# HARRIS Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: MILK Concentration (Activity): pCi/l

Sample Point 102 [ INDICATOR - W @ 2.82 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
478692	8/6/2018 - 8/6/2018	I-131	<1.25E+01	0.00E+00	1.25E+01
		Cs-134	<1.15E+01	0.00E+00	1.15E+01
		Cs-137	<7.34E+00	0.00E+00	7.34E+00
		BaLa-140	<1.06E+01	0.00E+00	1.06E+01
		Be-7	<7.02E+01	0.00E+00	7.02E+01
		K-40	1.71E+03	2.56E+02	9.80E+01
		LLI-131	<9.75E-01	0.00E+00	9.75E-01
479789	8/20/2018 - 8/20/2018	I-131	<6.37E+00	0.00E+00	6.37E+00
		Cs-134	<7.38E+00	0.00E+00	7.38E+00
		Cs-137	<8.71E+00	0.00E+00	8.71E+00
		BaLa-140	<5.90E+00	0.00E+00	5.90E+00
		Be-7	<5.39E+01	0.00E+00	5.39E+01
		K-40	1.73E+03	2.54E+02	7.96E+01
		LLI-131	<6.39E-01	0.00E+00	6.39E-01
480188	9/4/2018 - 9/4/2018	I-131	<6.09E+00	0.00E+00	6.09E+00
		Cs-134	<1.00E+01	0.00E+00	1.00E+01
		Cs-137	<6.89E+00	0.00E+00	6.89E+00
		BaLa-140	<6.45E+00	0.00E+00	6.45E+00
		Be-7	<5.19E+01	0.00E+00	5.19E+01
		K-40	1.70E+03	2.57E+02	1.10E+02
		LLI-131	<4.79E-01	0.00E+00	4.79E-01
481453	9/17/2018 - 9/17/2018	I-131	<9.03E+00	0.00E+00	9.03E+00
		Cs-134	<7.25E+00	0.00E+00	7.25E+00
		Cs-137	<7.33E+00	0.00E+00	7.33E+00
		BaLa-140	<8.23E+00	0.00E+00	8.23E+00
		Be-7	<5.21E+01	0.00E+00	5.21E+01
		K-40	1.65E+03	2.49E+02	7.53E+01
		LLI-131	<5.28E-01	0.00E+00	5.28E-01
482424	10/1/2018 - 10/1/2018	I-131	<7.50E+00	0.00E+00	7.50E+00
		Cs-134	<7.79E+00	0.00E+00	7.79E+00
		Cs-137	<8.51E+00	0.00E+00	8.51E+00
		BaLa-140	<6.38E+00	0.00E+00	6.38E+00
		Be-7	<5.92E+01	0.00E+00	5.92E+01
		K-40	1.81E+03	2.70E+02	1.29E+02
		LLI-131	<5.28E-01	0.00E+00	5.28E-01
483377	10/15/2018 - 10/15/2018	I-131	<6.17E+00	0.00E+00	6.17E+00
		Cs-134	<8.15E+00	0.00E+00	8.15E+00
		Cs-137	<1.10E+01	0.00E+00	1.10E+01
		BaLa-140	<7.62E+00	0.00E+00	7.62E+00
		Be-7	<4.78E+01	0.00E+00	4.78E+01
		K-40	1.88E+03	2.70E+02	7.62E+01
		LLI-131	<7.44E-01	0.00E+00	7.44E-01
484532	10/29/2018 - 10/29/2018	I-131	<4.39E+00	0.00E+00	4.39E+00
		Cs-134	<5.57E+00	0.00E+00	5.57E+00
		Cs-137	5.89E+00	4.06E+00	5.99E+00
		BaLa-140	<4.29E+00	0.00E+00	4.29E+00
		Be-7	<3.57E+01	0.00E+00	3.57E+01
		K-40	2.01E+03	2.30E+02	6.48E+01
		LLI-131	<9.93E-01	0.00E+00	9.93E-01

Media Type: SEDIMENT\_BOTTOM Concentration (Activity): pCi/kg dry

Sample Point 52 [ INDICATOR - S @ 3.8 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
466182	1/19/2018 - 1/19/2018	Mn-54	<5.97E+01	0.00E+00	5.97E+01



# HARRIS Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: SEDIMENT\_BOTTOM Concentration (Activity): pCi/kg dry

Sample Point 52 [ INDICATOR - S @ 3.8 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
466182	1/19/2018 - 1/19/2018	Co-58	<3.87E+01	0.00E+00	3.87E+01
		Fe-59	<9.34E+01	0.00E+00	9.34E+01
		Co-60	1.64E+02	6.19E+01	6.68E+01
		Zn-65	<1.21E+02	0.00E+00	1.21E+02
		Zr-95	<7.99E+01	0.00E+00	7.99E+01
		Nb-95	<5.43E+01	0.00E+00	5.43E+01
		I-131	<9.02E+01	0.00E+00	9.02E+01
		Cs-134	<6.14E+01	0.00E+00	6.14E+01
		Cs-137	8.28E+01	4.16E+01	5.49E+01
		Be-7	<4.09E+02	0.00E+00	4.09E+02
		K-40	7.94E+03	1.40E+03	1.05E+03
		Co-57	<3.21E+01	0.00E+00	3.21E+01
		Mo-99	<3.30E+03	0.00E+00	3.30E+03
		Ag-110M	<3.56E+01	0.00E+00	3.56E+01
		Sb-122	<5.59E+02	0.00E+00	5.59E+02
		Sb-125	<1.12E+02	0.00E+00	1.12E+02

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
479869	7/13/2018 - 7/13/2018	Mn-54	<4.44E+01	0.00E+00	4.44E+01
		Co-58	<4.56E+01	0.00E+00	4.56E+01
		Fe-59	<9.01E+01	0.00E+00	9.01E+01
		Co-60	1.90E+02	6.58E+01	7.29E+01
		Zn-65	<7.22E+01	0.00E+00	7.22E+01
		Zr-95	<1.05E+02	0.00E+00	1.05E+02
		Nb-95	<5.88E+01	0.00E+00	5.88E+01
		I-131	<5.44E+01	0.00E+00	5.44E+01
		Cs-134	<7.27E+01	0.00E+00	7.27E+01
		Cs-137	1.67E+02	9.24E+01	1.42E+02
		Be-7	<4.62E+02	0.00E+00	4.62E+02
		K-40	1.01E+04	1.48E+03	6.99E+02
		Co-57	<3.05E+01	0.00E+00	3.05E+01
		Mo-99	<1.69E+03	0.00E+00	1.69E+03
		Ag-110M	<3.97E+01	0.00E+00	3.97E+01
		Sb-122	<2.58E+02	0.00E+00	2.58E+02
Sb-125	<1.30E+02	0.00E+00	1.30E+02		

Media Type: SEDIMENT\_SHORE Concentration (Activity): pCi/kg dry

Sample Point 26 [ INDICATOR - S @ 4.6 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
466192	1/19/2018 - 1/19/2018	Mn-54	<2.37E+01	0.00E+00	2.37E+01
		Co-58	<2.51E+01	0.00E+00	2.51E+01
		Fe-59	<5.87E+01	0.00E+00	5.87E+01
		Co-60	<2.04E+01	0.00E+00	2.04E+01
		Zn-65	<6.79E+01	0.00E+00	6.79E+01
		Zr-95	<5.56E+01	0.00E+00	5.56E+01
		Nb-95	<3.01E+01	0.00E+00	3.01E+01
		I-131	<4.54E+01	0.00E+00	4.54E+01
		Cs-134	<3.42E+01	0.00E+00	3.42E+01
		Cs-137	<2.31E+01	0.00E+00	2.31E+01
		Be-7	<2.12E+02	0.00E+00	2.12E+02
		K-40	1.47E+04	1.53E+03	4.09E+02
		Co-57	<1.88E+01	0.00E+00	1.88E+01
		Mo-99	<2.32E+03	0.00E+00	2.32E+03
		Ag-110M	<2.35E+01	0.00E+00	2.35E+01
		Sb-122	<3.73E+02	0.00E+00	3.73E+02
Sb-125	<5.61E+01	0.00E+00	5.61E+01		

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
479876	7/13/2018 - 7/13/2018	Mn-54	<2.06E+01	0.00E+00	2.06E+01
		Co-58	<1.77E+01	0.00E+00	1.77E+01
		Fe-59	<3.44E+01	0.00E+00	3.44E+01
		Co-60	<2.43E+01	0.00E+00	2.43E+01
		Zn-65	<3.78E+01	0.00E+00	3.78E+01
		Zr-95	<3.24E+01	0.00E+00	3.24E+01
Nb-95	<2.17E+01	0.00E+00	2.17E+01		



# HARRIS Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: SEDIMENT\_SHORE Concentration (Activity): pCi/kg dry

Sample Point 26 [ INDICATOR - S @ 4.6 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
479876	7/13/2018 - 7/13/2018	I-131	<2.18E+01	0.00E+00	2.18E+01
		Cs-134	<2.32E+01	0.00E+00	2.32E+01
		Cs-137	<1.86E+01	0.00E+00	1.86E+01
		Be-7	1.17E+02	1.23E+02	2.00E+02
		K-40	9.44E+03	1.01E+03	2.07E+02
		Co-57	<1.31E+01	0.00E+00	1.31E+01
		Mo-99	<5.68E+02	0.00E+00	5.68E+02
		Ag-110M	<1.37E+01	0.00E+00	1.37E+01
		Sb-122	<9.29E+01	0.00E+00	9.29E+01
		Sb-125	<3.34E+01	0.00E+00	3.34E+01

Sample Point 41 [ INDICATOR - S @ 3.8 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
466193	1/19/2018 - 1/19/2018	Mn-54	<1.96E+01	0.00E+00	1.96E+01
		Co-58	<1.81E+01	0.00E+00	1.81E+01
		Fe-59	<5.10E+01	0.00E+00	5.10E+01
		Co-60	<2.09E+01	0.00E+00	2.09E+01
		Zn-65	<5.47E+01	0.00E+00	5.47E+01
		Zr-95	<3.54E+01	0.00E+00	3.54E+01
		Nb-95	<1.96E+01	0.00E+00	1.96E+01
		I-131	<2.88E+01	0.00E+00	2.88E+01
		Cs-134	<2.57E+01	0.00E+00	2.57E+01
		Cs-137	<2.42E+01	0.00E+00	2.42E+01
		Be-7	<1.69E+02	0.00E+00	1.69E+02
		K-40	1.16E+04	1.21E+03	3.05E+02
		Co-57	<1.38E+01	0.00E+00	1.38E+01
		Mo-99	<1.69E+03	0.00E+00	1.69E+03
		Ag-110M	<2.01E+01	0.00E+00	2.01E+01
		Sb-122	<2.66E+02	0.00E+00	2.66E+02
		Sb-125	<3.58E+01	0.00E+00	3.58E+01

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
479877	7/13/2018 - 7/13/2018	Mn-54	<1.65E+01	0.00E+00	1.65E+01
		Co-58	<1.69E+01	0.00E+00	1.69E+01
		Fe-59	<4.57E+01	0.00E+00	4.57E+01
		Co-60	<2.46E+01	0.00E+00	2.46E+01
		Zn-65	<5.07E+01	0.00E+00	5.07E+01
		Zr-95	<2.95E+01	0.00E+00	2.95E+01
		Nb-95	<2.02E+01	0.00E+00	2.02E+01
		I-131	<2.20E+01	0.00E+00	2.20E+01
		Cs-134	<2.27E+01	0.00E+00	2.27E+01
		Cs-137	<1.64E+01	0.00E+00	1.64E+01
		Be-7	2.37E+02	1.36E+02	2.01E+02
		K-40	1.10E+04	1.17E+03	1.43E+02
		Co-57	<1.39E+01	0.00E+00	1.39E+01
		Mo-99	<5.17E+02	0.00E+00	5.17E+02
		Ag-110M	<1.56E+01	0.00E+00	1.56E+01
		Sb-122	<7.05E+01	0.00E+00	7.05E+01
		Sb-125	<3.16E+01	0.00E+00	3.16E+01

Media Type: SURFACE WATER Concentration (Activity): pCi/l

Sample Point 26 [ INDICATOR - S @ 4.7 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
466968	12/26/2017 - 1/22/2018	Beta	3.96E+00	1.03E+00	1.51E+00
		Mn-54	<3.79E+00	0.00E+00	3.79E+00
		Co-58	<4.20E+00	0.00E+00	4.20E+00
		Fe-59	<7.57E+00	0.00E+00	7.57E+00
		Co-60	<3.46E+00	0.00E+00	3.46E+00
		Zn-65	<7.09E+00	0.00E+00	7.09E+00
		Zr-95	<6.15E+00	0.00E+00	6.15E+00
		Nb-95	<4.70E+00	0.00E+00	4.70E+00
		I-131	<1.18E+01	0.00E+00	1.18E+01
		Cs-134	<3.18E+00	0.00E+00	3.18E+00
		Cs-137	<4.20E+00	0.00E+00	4.20E+00



# HARRIS Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: SURFACE WATER Concentration (Activity): pCi/l

Sample Point 26 [ INDICATOR - S @ 4.7 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
466968	12/26/2017 - 1/22/2018	BaLa-140	<8.10E+00	0.00E+00	8.10E+00
		Be-7	<3.50E+01	0.00E+00	3.50E+01
		K-40	<7.96E+01	0.00E+00	7.96E+01
		H3SW	6.86E+03	2.50E+02	1.78E+02
468749	1/22/2018 - 2/19/2018	Beta	4.91E+00	1.05E+00	1.46E+00
		Mn-54	<3.14E+00	0.00E+00	3.14E+00
		Co-58	<3.20E+00	0.00E+00	3.20E+00
		Fe-59	<8.08E+00	0.00E+00	8.08E+00
		Co-60	<2.24E+00	0.00E+00	2.24E+00
		Zn-65	<8.39E+00	0.00E+00	8.39E+00
		Zr-95	<6.50E+00	0.00E+00	6.50E+00
		Nb-95	<4.15E+00	0.00E+00	4.15E+00
		I-131	<1.11E+01	0.00E+00	1.11E+01
		Cs-134	<3.76E+00	0.00E+00	3.76E+00
		Cs-137	<3.50E+00	0.00E+00	3.50E+00
		BaLa-140	<1.00E+01	0.00E+00	1.00E+01
		Be-7	<2.59E+01	0.00E+00	2.59E+01
		K-40	2.99E+01	2.69E+01	4.07E+01
		H3SW	1.28E+04	3.30E+02	1.85E+02
471705	2/19/2018 - 3/19/2018	Beta	4.95E+00	9.02E-01	1.20E+00
		Mn-54	<3.12E+00	0.00E+00	3.12E+00
		Co-58	<3.47E+00	0.00E+00	3.47E+00
		Fe-59	<5.48E+00	0.00E+00	5.48E+00
		Co-60	<3.26E+00	0.00E+00	3.26E+00
		Zn-65	<7.08E+00	0.00E+00	7.08E+00
		Zr-95	<7.03E+00	0.00E+00	7.03E+00
		Nb-95	<4.46E+00	0.00E+00	4.46E+00
		I-131	<1.12E+01	0.00E+00	1.12E+01
		Cs-134	<3.33E+00	0.00E+00	3.33E+00
		Cs-137	<3.35E+00	0.00E+00	3.35E+00
		BaLa-140	<9.70E+00	0.00E+00	9.70E+00
		Be-7	<2.78E+01	0.00E+00	2.78E+01
		K-40	7.41E+01	2.85E+01	2.23E+01
		H3SW	1.16E+04	3.15E+02	1.91E+02
473623	3/19/2018 - 4/16/2018	Beta	6.67E+00	1.07E+00	1.37E+00
		Mn-54	<2.93E+00	0.00E+00	2.93E+00
		Co-58	<3.67E+00	0.00E+00	3.67E+00
		Fe-59	<6.57E+00	0.00E+00	6.57E+00
		Co-60	<3.54E+00	0.00E+00	3.54E+00
		Zn-65	<6.12E+00	0.00E+00	6.12E+00
		Zr-95	<5.49E+00	0.00E+00	5.49E+00
		Nb-95	<3.98E+00	0.00E+00	3.98E+00
		I-131	<1.20E+01	0.00E+00	1.20E+01
		Cs-134	<3.79E+00	0.00E+00	3.79E+00
		Cs-137	<3.31E+00	0.00E+00	3.31E+00
		BaLa-140	<9.24E+00	0.00E+00	9.24E+00
		Be-7	<2.76E+01	0.00E+00	2.76E+01
		K-40	2.49E+01	2.25E+01	3.34E+01
		H3SW	1.04E+04	2.98E+02	1.74E+02
475204	4/16/2018 - 5/14/2018	Mn-54	<2.71E+00	0.00E+00	2.71E+00
		Co-58	<3.28E+00	0.00E+00	3.28E+00
		Fe-59	<4.95E+00	0.00E+00	4.95E+00
		Co-60	<2.92E+00	0.00E+00	2.92E+00
		Zn-65	<5.12E+00	0.00E+00	5.12E+00
		Zr-95	<5.53E+00	0.00E+00	5.53E+00
		Nb-95	<2.89E+00	0.00E+00	2.89E+00
		I-131	<1.14E+01	0.00E+00	1.14E+01
		Cs-134	<2.17E+00	0.00E+00	2.17E+00
		Cs-137	<3.33E+00	0.00E+00	3.33E+00



# HARRIS Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: SURFACE WATER Concentration (Activity): pCi/l

Sample Point 26 [ INDICATOR - S @ 4.7 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
475204	4/16/2018 - 5/14/2018	BaLa-140	<4.76E+00	0.00E+00	4.76E+00
		Be-7	<2.26E+01	0.00E+00	2.26E+01
		K-40	2.48E+01	2.70E+01	4.35E+01
		H3SW	9.00E+03	2.83E+02	1.93E+02
478096	5/14/2018 - 6/11/2018	Mn-54	<3.00E+00	0.00E+00	3.00E+00
		Co-58	<3.45E+00	0.00E+00	3.45E+00
		Fe-59	<6.14E+00	0.00E+00	6.14E+00
		Co-60	<2.71E+00	0.00E+00	2.71E+00
		Zn-65	<4.99E+00	0.00E+00	4.99E+00
		Zr-95	<6.98E+00	0.00E+00	6.98E+00
		Nb-95	<3.62E+00	0.00E+00	3.62E+00
		I-131	<1.04E+01	0.00E+00	1.04E+01
		Cs-134	<3.64E+00	0.00E+00	3.64E+00
		Cs-137	<3.58E+00	0.00E+00	3.58E+00
		BaLa-140	<4.26E+00	0.00E+00	4.26E+00
		Be-7	<2.63E+01	0.00E+00	2.63E+01
		K-40	5.30E+01	3.06E+01	4.19E+01
		H3SW	7.89E+03	2.68E+02	1.89E+02
479870	6/11/2018 - 7/9/2018	Mn-54	<2.87E+00	0.00E+00	2.87E+00
		Co-58	<3.79E+00	0.00E+00	3.79E+00
		Fe-59	<6.76E+00	0.00E+00	6.76E+00
		Co-60	<3.40E+00	0.00E+00	3.40E+00
		Zn-65	<7.06E+00	0.00E+00	7.06E+00
		Zr-95	<6.47E+00	0.00E+00	6.47E+00
		Nb-95	<5.09E+00	0.00E+00	5.09E+00
		I-131	<1.20E+01	0.00E+00	1.20E+01
		Cs-134	<3.90E+00	0.00E+00	3.90E+00
		Cs-137	<3.62E+00	0.00E+00	3.62E+00
		BaLa-140	<8.91E+00	0.00E+00	8.91E+00
		Be-7	<2.35E+01	0.00E+00	2.35E+01
		K-40	5.74E+01	3.25E+01	4.29E+01
		H3SW	7.41E+03	2.54E+02	1.82E+02
481949	7/9/2018 - 8/6/2018	Mn-54	<2.08E+00	0.00E+00	2.08E+00
		Co-58	<2.18E+00	0.00E+00	2.18E+00
		Fe-59	<5.48E+00	0.00E+00	5.48E+00
		Co-60	<1.81E+00	0.00E+00	1.81E+00
		Zn-65	<4.89E+00	0.00E+00	4.89E+00
		Zr-95	<3.90E+00	0.00E+00	3.90E+00
		Nb-95	<2.59E+00	0.00E+00	2.59E+00
		I-131	<1.17E+01	0.00E+00	1.17E+01
		Cs-134	<2.60E+00	0.00E+00	2.60E+00
		Cs-137	<2.47E+00	0.00E+00	2.47E+00
		BaLa-140	<6.27E+00	0.00E+00	6.27E+00
		Be-7	<1.86E+01	0.00E+00	1.86E+01
		K-40	<3.12E+01	0.00E+00	3.12E+01
		H3SW	7.17E+03	2.59E+02	1.89E+02
484006	8/6/2018 - 9/4/2018	Mn-54	<2.75E+00	0.00E+00	2.75E+00
		Co-58	<2.27E+00	0.00E+00	2.27E+00
		Fe-59	<5.40E+00	0.00E+00	5.40E+00
		Co-60	<2.46E+00	0.00E+00	2.46E+00
		Zn-65	<4.31E+00	0.00E+00	4.31E+00
		Zr-95	<5.08E+00	0.00E+00	5.08E+00
		Nb-95	<3.40E+00	0.00E+00	3.40E+00
		I-131	<9.40E+00	0.00E+00	9.40E+00
		Cs-134	<2.98E+00	0.00E+00	2.98E+00
		Cs-137	<2.48E+00	0.00E+00	2.48E+00
		BaLa-140	<8.37E+00	0.00E+00	8.37E+00
		Be-7	<2.48E+01	0.00E+00	2.48E+01
		K-40	4.03E+01	2.06E+01	2.54E+01



# HARRIS Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: SURFACE WATER Concentration (Activity): pCi/l

Sample Point 26 [ INDICATOR - S @ 4.7 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
484006	8/6/2018 - 9/4/2018	H3SW	6.40E+03	2.52E+02	1.95E+02
485251	9/4/2018 - 10/1/2018	Mn-54	<3.60E+00	0.00E+00	3.60E+00
		Co-58	<4.21E+00	0.00E+00	4.21E+00
		Fe-59	<5.86E+00	0.00E+00	5.86E+00
		Co-60	<2.37E+00	0.00E+00	2.37E+00
		Zn-65	<7.75E+00	0.00E+00	7.75E+00
		Zr-95	<7.83E+00	0.00E+00	7.83E+00
		Nb-95	<5.38E+00	0.00E+00	5.38E+00
		I-131	<9.92E+00	0.00E+00	9.92E+00
		Cs-134	<4.22E+00	0.00E+00	4.22E+00
		Cs-137	<3.04E+00	0.00E+00	3.04E+00
		BaLa-140	<9.42E+00	0.00E+00	9.42E+00
		Be-7	<3.97E+01	0.00E+00	3.97E+01
		K-40	<6.01E+01	0.00E+00	6.01E+01
		H3SW	5.23E+03	2.29E+02	1.95E+02
488462	10/1/2018 - 10/29/2018	Mn-54	<3.88E+00	0.00E+00	3.88E+00
		Co-58	<3.57E+00	0.00E+00	3.57E+00
		Fe-59	<6.98E+00	0.00E+00	6.98E+00
		Co-60	<3.94E+00	0.00E+00	3.94E+00
		Zn-65	<4.44E+00	0.00E+00	4.44E+00
		Zr-95	<8.04E+00	0.00E+00	8.04E+00
		Nb-95	<4.86E+00	0.00E+00	4.86E+00
		I-131	<1.16E+01	0.00E+00	1.16E+01
		Cs-134	<3.83E+00	0.00E+00	3.83E+00
		Cs-137	<3.76E+00	0.00E+00	3.76E+00
		BaLa-140	<9.86E+00	0.00E+00	9.86E+00
		Be-7	<2.88E+01	0.00E+00	2.88E+01
		K-40	<6.93E+01	0.00E+00	6.93E+01
		H3SW	4.59E+03	2.17E+02	1.90E+02
490143	10/29/2018 - 11/26/2018	Mn-54	<2.49E+00	0.00E+00	2.49E+00
		Co-58	<2.37E+00	0.00E+00	2.37E+00
		Fe-59	<6.14E+00	0.00E+00	6.14E+00
		Co-60	<2.57E+00	0.00E+00	2.57E+00
		Zn-65	<4.45E+00	0.00E+00	4.45E+00
		Zr-95	<5.22E+00	0.00E+00	5.22E+00
		Nb-95	<3.00E+00	0.00E+00	3.00E+00
		I-131	<1.03E+01	0.00E+00	1.03E+01
		Cs-134	<2.67E+00	0.00E+00	2.67E+00
		Cs-137	<2.25E+00	0.00E+00	2.25E+00
		BaLa-140	<5.72E+00	0.00E+00	5.72E+00
		Be-7	<2.30E+01	0.00E+00	2.30E+01
		K-40	<4.64E+01	0.00E+00	4.64E+01
		H3SW	4.03E+03	2.06E+02	1.88E+02
491738	11/26/2018 - 12/26/2018	Mn-54	<1.77E+00	0.00E+00	1.77E+00
		Co-58	<2.08E+00	0.00E+00	2.08E+00
		Fe-59	<3.83E+00	0.00E+00	3.83E+00
		Co-60	<1.81E+00	0.00E+00	1.81E+00
		Zn-65	<3.59E+00	0.00E+00	3.59E+00
		Zr-95	<3.20E+00	0.00E+00	3.20E+00
		Nb-95	<2.52E+00	0.00E+00	2.52E+00
		I-131	<1.05E+01	0.00E+00	1.05E+01
		Cs-134	<1.42E+00	0.00E+00	1.42E+00
		Cs-137	<1.73E+00	0.00E+00	1.73E+00
		BaLa-140	<4.84E+00	0.00E+00	4.84E+00
		Be-7	<1.74E+01	0.00E+00	1.74E+01
		K-40	2.51E+01	1.53E+01	2.26E+01
		H3SW	3.62E+03	1.99E+02	1.95E+02



# HARRIS Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: SURFACE WATER Concentration (Activity): pCi/l

Sample Point 40 [ INDICATOR - SSE @ 17.2 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
466969	12/26/2017 - 1/22/2018	Beta	4.41E+00	1.07E+00	1.55E+00
		Mn-54	<3.37E+00	0.00E+00	3.37E+00
		Co-58	<3.36E+00	0.00E+00	3.36E+00
		Fe-59	<7.52E+00	0.00E+00	7.52E+00
		Co-60	<4.30E+00	0.00E+00	4.30E+00
		Zn-65	<5.99E+00	0.00E+00	5.99E+00
		Zr-95	<6.61E+00	0.00E+00	6.61E+00
		Nb-95	<3.76E+00	0.00E+00	3.76E+00
		I-131	<1.16E+01	0.00E+00	1.16E+01
		Cs-134	<3.73E+00	0.00E+00	3.73E+00
		Cs-137	<4.06E+00	0.00E+00	4.06E+00
		BaLa-140	<1.11E+01	0.00E+00	1.11E+01
		Be-7	<4.01E+01	0.00E+00	4.01E+01
		K-40	5.67E+01	3.13E+01	3.82E+01
		H3SW	<-1.4E+01	0.00E+00	1.78E+02

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
468750	1/22/2018 - 2/19/2018	Beta	6.02E+00	1.03E+00	1.30E+00
		Mn-54	<3.08E+00	0.00E+00	3.08E+00
		Co-58	<3.19E+00	0.00E+00	3.19E+00
		Fe-59	<6.19E+00	0.00E+00	6.19E+00
		Co-60	<2.62E+00	0.00E+00	2.62E+00
		Zn-65	<5.29E+00	0.00E+00	5.29E+00
		Zr-95	<4.88E+00	0.00E+00	4.88E+00
		Nb-95	<3.92E+00	0.00E+00	3.92E+00
		I-131	<1.11E+01	0.00E+00	1.11E+01
		Cs-134	<3.41E+00	0.00E+00	3.41E+00
		Cs-137	<3.07E+00	0.00E+00	3.07E+00
		BaLa-140	<7.72E+00	0.00E+00	7.72E+00
		Be-7	<2.59E+01	0.00E+00	2.59E+01
		K-40	<5.99E+01	0.00E+00	5.99E+01
		H3SW	<-5.7E+01	0.00E+00	1.85E+02

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
471706	2/19/2018 - 3/19/2018	Beta	4.12E+00	8.70E-01	1.20E+00
		Mn-54	<2.43E+00	0.00E+00	2.43E+00
		Co-58	<2.32E+00	0.00E+00	2.32E+00
		Fe-59	<5.73E+00	0.00E+00	5.73E+00
		Co-60	<2.48E+00	0.00E+00	2.48E+00
		Zn-65	<4.56E+00	0.00E+00	4.56E+00
		Zr-95	<4.53E+00	0.00E+00	4.53E+00
		Nb-95	<3.40E+00	0.00E+00	3.40E+00
		I-131	<1.03E+01	0.00E+00	1.03E+01
		Cs-134	<2.39E+00	0.00E+00	2.39E+00
		Cs-137	<2.47E+00	0.00E+00	2.47E+00
		BaLa-140	<5.45E+00	0.00E+00	5.45E+00
		Be-7	<1.99E+01	0.00E+00	1.99E+01
		K-40	3.58E+01	2.30E+01	3.30E+01
		H3SW	<-9.1E+01	0.00E+00	1.91E+02

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
473624	3/19/2018 - 4/16/2018	Beta	3.09E+00	9.18E-01	1.35E+00
		Mn-54	<4.51E+00	0.00E+00	4.51E+00
		Co-58	<2.48E+00	0.00E+00	2.48E+00
		Fe-59	<8.97E+00	0.00E+00	8.97E+00
		Co-60	<3.87E+00	0.00E+00	3.87E+00
		Zn-65	<6.37E+00	0.00E+00	6.37E+00
		Zr-95	<6.67E+00	0.00E+00	6.67E+00
		Nb-95	<3.23E+00	0.00E+00	3.23E+00
		I-131	<1.09E+01	0.00E+00	1.09E+01
		Cs-134	<4.43E+00	0.00E+00	4.43E+00
		Cs-137	<4.21E+00	0.00E+00	4.21E+00
		BaLa-140	<2.44E+00	0.00E+00	2.44E+00
		Be-7	<5.04E+01	0.00E+00	5.04E+01
		K-40	<6.80E+01	0.00E+00	6.80E+01
		H3SW	<4.02E+01	0.00E+00	1.74E+02





# HARRIS Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: SURFACE WATER Concentration (Activity): pCi/l

Sample Point 40 [ INDICATOR - SSE @ 17.2 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
475205	4/16/2018 - 5/14/2018	Mn-54	<2.93E+00	0.00E+00	2.93E+00
		Co-58	<2.77E+00	0.00E+00	2.77E+00
		Fe-59	<7.08E+00	0.00E+00	7.08E+00
		Co-60	<3.30E+00	0.00E+00	3.30E+00
		Zn-65	<7.54E+00	0.00E+00	7.54E+00
		Zr-95	<7.44E+00	0.00E+00	7.44E+00
		Nb-95	<4.49E+00	0.00E+00	4.49E+00
		I-131	<1.13E+01	0.00E+00	1.13E+01
		Cs-134	<3.66E+00	0.00E+00	3.66E+00
		Cs-137	<3.19E+00	0.00E+00	3.19E+00
		BaLa-140	<8.27E+00	0.00E+00	8.27E+00
		Be-7	<2.87E+01	0.00E+00	2.87E+01
		K-40	<4.80E+01	0.00E+00	4.80E+01
		H3SW	<-7.1E+00	0.00E+00	1.93E+02

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
478097	5/14/2018 - 6/11/2018	Mn-54	<2.49E+00	0.00E+00	2.49E+00
		Co-58	<3.02E+00	0.00E+00	3.02E+00
		Fe-59	<6.62E+00	0.00E+00	6.62E+00
		Co-60	<3.18E+00	0.00E+00	3.18E+00
		Zn-65	<5.21E+00	0.00E+00	5.21E+00
		Zr-95	<5.35E+00	0.00E+00	5.35E+00
		Nb-95	<3.99E+00	0.00E+00	3.99E+00
		I-131	<1.11E+01	0.00E+00	1.11E+01
		Cs-134	<3.72E+00	0.00E+00	3.72E+00
		Cs-137	<2.82E+00	0.00E+00	2.82E+00
		BaLa-140	<7.41E+00	0.00E+00	7.41E+00
		Be-7	<3.20E+01	0.00E+00	3.20E+01
		K-40	4.51E+01	2.47E+01	3.08E+01
		H3SW	<2.37E+01	0.00E+00	1.90E+02

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
479871	6/11/2018 - 7/9/2018	Mn-54	<3.44E+00	0.00E+00	3.44E+00
		Co-58	<2.87E+00	0.00E+00	2.87E+00
		Fe-59	<6.11E+00	0.00E+00	6.11E+00
		Co-60	<3.04E+00	0.00E+00	3.04E+00
		Zn-65	<5.62E+00	0.00E+00	5.62E+00
		Zr-95	<5.59E+00	0.00E+00	5.59E+00
		Nb-95	<3.42E+00	0.00E+00	3.42E+00
		I-131	<1.20E+01	0.00E+00	1.20E+01
		Cs-134	<3.36E+00	0.00E+00	3.36E+00
		Cs-137	<3.32E+00	0.00E+00	3.32E+00
		BaLa-140	<7.64E+00	0.00E+00	7.64E+00
		Be-7	<3.31E+01	0.00E+00	3.31E+01
		K-40	2.98E+01	2.68E+01	4.10E+01
		H3SW	<3.57E+01	0.00E+00	1.81E+02

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
481950	7/9/2018 - 8/6/2018	Mn-54	<2.30E+00	0.00E+00	2.30E+00
		Co-58	<2.72E+00	0.00E+00	2.72E+00
		Fe-59	<5.54E+00	0.00E+00	5.54E+00
		Co-60	<2.58E+00	0.00E+00	2.58E+00
		Zn-65	<4.32E+00	0.00E+00	4.32E+00
		Zr-95	<3.89E+00	0.00E+00	3.89E+00
		Nb-95	<3.36E+00	0.00E+00	3.36E+00
		I-131	<1.18E+01	0.00E+00	1.18E+01
		Cs-134	<2.42E+00	0.00E+00	2.42E+00
		Cs-137	<2.35E+00	0.00E+00	2.35E+00
		BaLa-140	<8.13E+00	0.00E+00	8.13E+00
		Be-7	<2.18E+01	0.00E+00	2.18E+01
		K-40	<3.86E+01	0.00E+00	3.86E+01
		H3SW	<-3.6E+01	0.00E+00	1.87E+02

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
484007	8/6/2018 - 9/4/2018	Mn-54	<2.66E+00	0.00E+00	2.66E+00
		Co-58	<3.12E+00	0.00E+00	3.12E+00
		Fe-59	<6.09E+00	0.00E+00	6.09E+00



# HARRIS Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: SURFACE WATER Concentration (Activity): pCi/l

Sample Point 40 [ INDICATOR - SSE @ 17.2 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
484007	8/6/2018 - 9/4/2018	Co-60	<2.69E+00	0.00E+00	2.69E+00
		Zn-65	<5.82E+00	0.00E+00	5.82E+00
		Zr-95	<4.85E+00	0.00E+00	4.85E+00
		Nb-95	<3.18E+00	0.00E+00	3.18E+00
		I-131	<1.09E+01	0.00E+00	1.09E+01
		Cs-134	<3.10E+00	0.00E+00	3.10E+00
		Cs-137	<2.29E+00	0.00E+00	2.29E+00
		BaLa-140	<6.98E+00	0.00E+00	6.98E+00
		Be-7	<2.15E+01	0.00E+00	2.15E+01
		K-40	<3.76E+01	0.00E+00	3.76E+01
		H3SW	<1.50E+02	0.00E+00	1.94E+02
		485252	9/4/2018 - 10/1/2018	Mn-54	<8.34E-01
Co-58	<9.09E-01			0.00E+00	9.09E-01
Fe-59	<2.05E+00			0.00E+00	2.05E+00
Co-60	<8.72E-01			0.00E+00	8.72E-01
Zn-65	<1.95E+00			0.00E+00	1.95E+00
Zr-95	<1.93E+00			0.00E+00	1.93E+00
Nb-95	<1.27E+00			0.00E+00	1.27E+00
I-131	<3.74E+00			0.00E+00	3.74E+00
Cs-134	<1.02E+00			0.00E+00	1.02E+00
Cs-137	<1.07E+00			0.00E+00	1.07E+00
BaLa-140	<2.54E+00			0.00E+00	2.54E+00
Be-7	<9.86E+00			0.00E+00	9.86E+00
K-40	3.97E+01			1.07E+01	1.38E+01
H3SW	<4.80E+01			0.00E+00	1.98E+02
488463	10/1/2018 - 10/29/2018	Mn-54	<2.86E+00	0.00E+00	2.86E+00
		Co-58	<3.18E+00	0.00E+00	3.18E+00
		Fe-59	<6.43E+00	0.00E+00	6.43E+00
		Co-60	<2.97E+00	0.00E+00	2.97E+00
		Zn-65	<6.83E+00	0.00E+00	6.83E+00
		Zr-95	<6.23E+00	0.00E+00	6.23E+00
		Nb-95	<3.86E+00	0.00E+00	3.86E+00
		I-131	<1.13E+01	0.00E+00	1.13E+01
		Cs-134	<4.06E+00	0.00E+00	4.06E+00
		Cs-137	<2.44E+00	0.00E+00	2.44E+00
		BaLa-140	<6.58E+00	0.00E+00	6.58E+00
		Be-7	<2.76E+01	0.00E+00	2.76E+01
		K-40	9.54E+01	2.97E+01	2.52E+01
		H3SW	<9.5E+00	0.00E+00	1.89E+02
490144	10/29/2018 - 11/26/2018	Mn-54	<3.31E+00	0.00E+00	3.31E+00
		Co-58	<4.22E+00	0.00E+00	4.22E+00
		Fe-59	<8.72E+00	0.00E+00	8.72E+00
		Co-60	<3.11E+00	0.00E+00	3.11E+00
		Zn-65	<7.44E+00	0.00E+00	7.44E+00
		Zr-95	<5.99E+00	0.00E+00	5.99E+00
		Nb-95	<4.15E+00	0.00E+00	4.15E+00
		I-131	<1.15E+01	0.00E+00	1.15E+01
		Cs-134	<3.02E+00	0.00E+00	3.02E+00
		Cs-137	<2.28E+00	0.00E+00	2.28E+00
		BaLa-140	<1.12E+01	0.00E+00	1.12E+01
		Be-7	<3.15E+01	0.00E+00	3.15E+01
		K-40	<6.68E+01	0.00E+00	6.68E+01
		H3SW	<1.19E+01	0.00E+00	1.89E+02
491739	11/26/2018 - 12/26/2018	Mn-54	<1.50E+00	0.00E+00	1.50E+00
		Co-58	<1.95E+00	0.00E+00	1.95E+00
		Fe-59	<4.13E+00	0.00E+00	4.13E+00
		Co-60	<1.40E+00	0.00E+00	1.40E+00
		Zn-65	<3.64E+00	0.00E+00	3.64E+00
		Zr-95	<3.64E+00	0.00E+00	3.64E+00



# HARRIS Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: SURFACE WATER Concentration (Activity): pCi/l

Sample Point 40 [ INDICATOR - SSE @ 17.2 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
491739	11/26/2018 - 12/26/2018	Nb-95	<2.77E+00	0.00E+00	2.77E+00
		I-131	<1.15E+01	0.00E+00	1.15E+01
		Cs-134	<1.88E+00	0.00E+00	1.88E+00
		Cs-137	<1.55E+00	0.00E+00	1.55E+00
		BaLa-140	<5.10E+00	0.00E+00	5.10E+00
		Be-7	<1.65E+01	0.00E+00	1.65E+01
		K-40	6.69E+01	1.94E+01	2.36E+01
		H3SW	<-8.8E+01	0.00E+00	1.96E+02

Sample Point 43 [ CONTROL - SW @ 8.47 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
466183	12/26/2017 - 1/22/2018	Beta	5.93E+00	1.14E+00	1.56E+00
		Mn-54	<2.75E+00	0.00E+00	2.75E+00
		Co-58	<2.91E+00	0.00E+00	2.91E+00
		Fe-59	<5.01E+00	0.00E+00	5.01E+00
		Co-60	<2.63E+00	0.00E+00	2.63E+00
		Zn-65	<6.26E+00	0.00E+00	6.26E+00
		Zr-95	<5.94E+00	0.00E+00	5.94E+00
		Nb-95	<3.89E+00	0.00E+00	3.89E+00
		I-131	<1.02E+01	0.00E+00	1.02E+01
		Cs-134	<3.28E+00	0.00E+00	3.28E+00
		Cs-137	<3.04E+00	0.00E+00	3.04E+00
		BaLa-140	<7.55E+00	0.00E+00	7.55E+00
		Be-7	<2.57E+01	0.00E+00	2.57E+01
		K-40	1.17E+02	3.27E+01	3.56E+01
		H3SW	<-2.4E+00	0.00E+00	1.78E+02

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
468751	1/22/2018 - 2/19/2018	Beta	5.05E+00	1.09E+00	1.53E+00
		Mn-54	<3.14E+00	0.00E+00	3.14E+00
		Co-58	<2.37E+00	0.00E+00	2.37E+00
		Fe-59	<5.20E+00	0.00E+00	5.20E+00
		Co-60	<3.43E+00	0.00E+00	3.43E+00
		Zn-65	<6.32E+00	0.00E+00	6.32E+00
		Zr-95	<6.83E+00	0.00E+00	6.83E+00
		Nb-95	<3.71E+00	0.00E+00	3.71E+00
		I-131	<1.16E+01	0.00E+00	1.16E+01
		Cs-134	<3.59E+00	0.00E+00	3.59E+00
		Cs-137	<3.23E+00	0.00E+00	3.23E+00
		BaLa-140	<8.92E+00	0.00E+00	8.92E+00
		Be-7	<2.93E+01	0.00E+00	2.93E+01
		K-40	<5.36E+01	0.00E+00	5.36E+01
		H3SW	<4.96E+01	0.00E+00	1.85E+02

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
471707	2/19/2018 - 3/19/2018	Beta	3.70E+00	8.52E-01	1.20E+00
		Mn-54	<4.13E+00	0.00E+00	4.13E+00
		Co-58	<4.99E+00	0.00E+00	4.99E+00
		Fe-59	<9.24E+00	0.00E+00	9.24E+00
		Co-60	<4.35E+00	0.00E+00	4.35E+00
		Zn-65	<9.18E+00	0.00E+00	9.18E+00
		Zr-95	<8.50E+00	0.00E+00	8.50E+00
		Nb-95	<6.02E+00	0.00E+00	6.02E+00
		I-131	<1.15E+01	0.00E+00	1.15E+01
		Cs-134	<3.61E+00	0.00E+00	3.61E+00
		Cs-137	<4.18E+00	0.00E+00	4.18E+00
		BaLa-140	<1.20E+01	0.00E+00	1.20E+01
		Be-7	<3.76E+01	0.00E+00	3.76E+01
		K-40	<7.55E+01	0.00E+00	7.55E+01
		H3SW	<-1.3E+02	0.00E+00	1.91E+02

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
473625	3/19/2018 - 4/16/2018	Beta	4.20E+00	9.64E-01	1.35E+00
		Mn-54	<3.56E+00	0.00E+00	3.56E+00
		Co-58	<2.86E+00	0.00E+00	2.86E+00
		Fe-59	<8.10E+00	0.00E+00	8.10E+00



# HARRIS Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: SURFACE WATER Concentration (Activity): pCi/l

Sample Point 43 [ CONTROL - SW @ 8.47 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
473625	3/19/2018 - 4/16/2018	Co-60	<2.62E+00	0.00E+00	2.62E+00
		Zn-65	<7.82E+00	0.00E+00	7.82E+00
		Zr-95	<6.63E+00	0.00E+00	6.63E+00
		Nb-95	<3.53E+00	0.00E+00	3.53E+00
		I-131	<1.17E+01	0.00E+00	1.17E+01
		Cs-134	<2.54E+00	0.00E+00	2.54E+00
		Cs-137	<3.86E+00	0.00E+00	3.86E+00
		BaLa-140	<9.12E+00	0.00E+00	9.12E+00
		Be-7	<2.38E+01	0.00E+00	2.38E+01
		K-40	<5.82E+01	0.00E+00	5.82E+01
		H3SW	<-2.4E+01	0.00E+00	1.75E+02
		475206	4/16/2018 - 5/14/2018	Mn-54	<2.28E+00
Co-58	<2.78E+00			0.00E+00	2.78E+00
Fe-59	<6.24E+00			0.00E+00	6.24E+00
Co-60	<2.41E+00			0.00E+00	2.41E+00
Zn-65	<5.90E+00			0.00E+00	5.90E+00
Zr-95	<4.93E+00			0.00E+00	4.93E+00
Nb-95	<3.75E+00			0.00E+00	3.75E+00
I-131	<1.19E+01			0.00E+00	1.19E+01
Cs-134	<2.96E+00			0.00E+00	2.96E+00
Cs-137	<2.90E+00			0.00E+00	2.90E+00
BaLa-140	<8.55E+00			0.00E+00	8.55E+00
Be-7	<2.17E+01			0.00E+00	2.17E+01
K-40	4.60E+01			2.87E+01	4.09E+01
H3SW	<-5.4E+01			0.00E+00	1.93E+02
478098	5/14/2018 - 6/11/2018	Mn-54	<2.98E+00	0.00E+00	2.98E+00
		Co-58	<3.85E+00	0.00E+00	3.85E+00
		Fe-59	<6.91E+00	0.00E+00	6.91E+00
		Co-60	<4.00E+00	0.00E+00	4.00E+00
		Zn-65	<6.43E+00	0.00E+00	6.43E+00
		Zr-95	<7.50E+00	0.00E+00	7.50E+00
		Nb-95	<5.14E+00	0.00E+00	5.14E+00
		I-131	<1.13E+01	0.00E+00	1.13E+01
		Cs-134	<3.99E+00	0.00E+00	3.99E+00
		Cs-137	<4.31E+00	0.00E+00	4.31E+00
		BaLa-140	<8.00E+00	0.00E+00	8.00E+00
		Be-7	<2.82E+01	0.00E+00	2.82E+01
		K-40	<5.78E+01	0.00E+00	5.78E+01
		H3SW	<6.40E+01	0.00E+00	1.90E+02
479872	6/11/2018 - 7/9/2018	Mn-54	<4.51E+00	0.00E+00	4.51E+00
		Co-58	<4.23E+00	0.00E+00	4.23E+00
		Fe-59	<1.01E+01	0.00E+00	1.01E+01
		Co-60	<3.86E+00	0.00E+00	3.86E+00
		Zn-65	<8.88E+00	0.00E+00	8.88E+00
		Zr-95	<7.49E+00	0.00E+00	7.49E+00
		Nb-95	<5.22E+00	0.00E+00	5.22E+00
		I-131	<1.10E+01	0.00E+00	1.10E+01
		Cs-134	<3.74E+00	0.00E+00	3.74E+00
		Cs-137	<3.48E+00	0.00E+00	3.48E+00
		BaLa-140	<1.18E+01	0.00E+00	1.18E+01
		Be-7	<2.98E+01	0.00E+00	2.98E+01
		K-40	<8.26E+01	0.00E+00	8.26E+01
		H3SW	<-1.6E+01	0.00E+00	1.81E+02
481951	7/9/2018 - 8/6/2018	Mn-54	<2.10E+00	0.00E+00	2.10E+00
		Co-58	<2.01E+00	0.00E+00	2.01E+00
		Fe-59	<4.32E+00	0.00E+00	4.32E+00
		Co-60	<2.08E+00	0.00E+00	2.08E+00
		Zn-65	<3.88E+00	0.00E+00	3.88E+00
		Zr-95	<4.25E+00	0.00E+00	4.25E+00



# HARRIS Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: SURFACE WATER Concentration (Activity): pCi/l

Sample Point 43 [ CONTROL - SW @ 8.47 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
481951	7/9/2018 - 8/6/2018	Nb-95	<3.00E+00	0.00E+00	3.00E+00
		I-131	<1.06E+01	0.00E+00	1.06E+01
		Cs-134	<2.35E+00	0.00E+00	2.35E+00
		Cs-137	<1.95E+00	0.00E+00	1.95E+00
		BaLa-140	<6.41E+00	0.00E+00	6.41E+00
		Be-7	<1.84E+01	0.00E+00	1.84E+01
		K-40	5.21E+01	2.13E+01	2.77E+01
		H3SW	<1.20E+01	0.00E+00	1.89E+02
484008	8/6/2018 - 9/4/2018	Mn-54	<3.56E+00	0.00E+00	3.56E+00
		Co-58	<3.64E+00	0.00E+00	3.64E+00
		Fe-59	<6.15E+00	0.00E+00	6.15E+00
		Co-60	<2.92E+00	0.00E+00	2.92E+00
		Zn-65	<5.38E+00	0.00E+00	5.38E+00
		Zr-95	<6.60E+00	0.00E+00	6.60E+00
		Nb-95	<4.00E+00	0.00E+00	4.00E+00
		I-131	<1.17E+01	0.00E+00	1.17E+01
		Cs-134	<3.33E+00	0.00E+00	3.33E+00
		Cs-137	<3.07E+00	0.00E+00	3.07E+00
		BaLa-140	<6.71E+00	0.00E+00	6.71E+00
		Be-7	<3.00E+01	0.00E+00	3.00E+01
		K-40	6.01E+01	2.90E+01	3.63E+01
		H3SW	<5.94E+01	0.00E+00	1.95E+02
485253	9/4/2018 - 10/1/2018	Mn-54	<3.80E+00	0.00E+00	3.80E+00
		Co-58	<3.48E+00	0.00E+00	3.48E+00
		Fe-59	<5.86E+00	0.00E+00	5.86E+00
		Co-60	<8.71E-01	0.00E+00	8.71E-01
		Zn-65	<7.75E+00	0.00E+00	7.75E+00
		Zr-95	<8.85E+00	0.00E+00	8.85E+00
		Nb-95	<4.19E+00	0.00E+00	4.19E+00
		I-131	<1.09E+01	0.00E+00	1.09E+01
		Cs-134	<3.75E+00	0.00E+00	3.75E+00
		Cs-137	<3.27E+00	0.00E+00	3.27E+00
		BaLa-140	<2.37E+00	0.00E+00	2.37E+00
		Be-7	<4.48E+01	0.00E+00	4.48E+01
		K-40	<7.83E+01	0.00E+00	7.83E+01
		H3SW	<-5.3E+01	0.00E+00	1.97E+02
488464	10/1/2018 - 10/29/2018	Mn-54	<3.83E+00	0.00E+00	3.83E+00
		Co-58	<3.28E+00	0.00E+00	3.28E+00
		Fe-59	<8.66E+00	0.00E+00	8.66E+00
		Co-60	<3.70E+00	0.00E+00	3.70E+00
		Zn-65	<8.07E+00	0.00E+00	8.07E+00
		Zr-95	<5.81E+00	0.00E+00	5.81E+00
		Nb-95	<3.46E+00	0.00E+00	3.46E+00
		I-131	<1.16E+01	0.00E+00	1.16E+01
		Cs-134	<3.27E+00	0.00E+00	3.27E+00
		Cs-137	<2.49E+00	0.00E+00	2.49E+00
		BaLa-140	<6.78E+00	0.00E+00	6.78E+00
		Be-7	<2.55E+01	0.00E+00	2.55E+01
		K-40	<5.97E+01	0.00E+00	5.97E+01
		H3SW	<-3.1E+01	0.00E+00	1.91E+02
490145	10/29/2018 - 11/26/2018	Mn-54	<3.23E+00	0.00E+00	3.23E+00
		Co-58	<2.97E+00	0.00E+00	2.97E+00
		Fe-59	<8.05E+00	0.00E+00	8.05E+00
		Co-60	<3.42E+00	0.00E+00	3.42E+00
		Zn-65	<6.03E+00	0.00E+00	6.03E+00
		Zr-95	<6.68E+00	0.00E+00	6.68E+00
		Nb-95	<4.78E+00	0.00E+00	4.78E+00
		I-131	<1.16E+01	0.00E+00	1.16E+01
		Cs-134	<3.67E+00	0.00E+00	3.67E+00



# HARRIS Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: SURFACE WATER Concentration (Activity): pCi/l

Sample Point 43 [ CONTROL - SW @ 8.47 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
490145	10/29/2018 - 11/26/2018	Cs-137	<3.21E+00	0.00E+00	3.21E+00
		BaLa-140	<7.68E+00	0.00E+00	7.68E+00
		Be-7	<2.87E+01	0.00E+00	2.87E+01
		K-40	7.98E+01	3.46E+01	4.36E+01
		H3SW	<-1.4E+01	0.00E+00	1.88E+02
491740	11/26/2018 - 12/26/2018	Mn-54	<1.37E+00	0.00E+00	1.37E+00
		Co-58	<1.68E+00	0.00E+00	1.68E+00
		Fe-59	<3.12E+00	0.00E+00	3.12E+00
		Co-60	<1.06E+00	0.00E+00	1.06E+00
		Zn-65	<2.70E+00	0.00E+00	2.70E+00
		Zr-95	<3.36E+00	0.00E+00	3.36E+00
		Nb-95	<2.16E+00	0.00E+00	2.16E+00
		I-131	<1.04E+01	0.00E+00	1.04E+01
		Cs-134	<1.45E+00	0.00E+00	1.45E+00
		Cs-137	<1.40E+00	0.00E+00	1.40E+00
		BaLa-140	<5.95E+00	0.00E+00	5.95E+00
		Be-7	<1.36E+01	0.00E+00	1.36E+01
		K-40	1.65E+01	1.55E+01	2.48E+01
H3SW	<-7.2E+01	0.00E+00	1.94E+02		

Media Type: TLD Concentration (Activity): mR/Standard Quarter

Sample Point 1 [ INDICATOR - N @ 2.6 miles ]

TLD RING TLD\_INNER

Sample ID:	Sample Dates:	Nuclide	Activity
470164	1/10/2018 - 4/11/2018	mR/Std Qtr	17.64
477122	4/11/2018 - 7/11/2018	mR/Std Qtr	14.11
483752	7/11/2018 - 10/10/2018	mR/Std Qtr	13.64
490536	10/10/2018 - 1/9/2019	mR/Std Qtr	16.03

Sample Point 2 [ INDICATOR - NNE @ 1.4 miles ]

TLD RING TLD\_INNER

Sample ID:	Sample Dates:	Nuclide	Activity
470172	1/10/2018 - 4/11/2018	mR/Std Qtr	17.45
477130	4/11/2018 - 7/11/2018	mR/Std Qtr	15.74
483760	7/11/2018 - 10/10/2018	mR/Std Qtr	13.63
490544	10/10/2018 - 1/9/2019	mR/Std Qtr	16.14

Sample Point 3 [ INDICATOR - ENE @ 1.9 miles ]

TLD RING TLD\_SPEC

Sample ID:	Sample Dates:	Nuclide	Activity
477141	4/11/2018 - 7/11/2018	mR/Std Qtr	13.69
483771	7/11/2018 - 10/10/2018	mR/Std Qtr	12.07
490555	10/10/2018 - 1/9/2019	mR/Std Qtr	13.87

Sample Point 4 [ INDICATOR - NNE @ 3.1 miles ]

TLD RING TLD\_SPEC

Sample ID:	Sample Dates:	Nuclide	Activity
470188	1/10/2018 - 4/11/2018	mR/Std Qtr	14.62
477146	4/11/2018 - 7/11/2018	mR/Std Qtr	12.13



# HARRIS Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: TLD Concentration (Activity): mR/Standard Quarter

Sample Point 4 [ INDICATOR - NNE @ 3.1 miles ]

TLD RING TLD\_SPEC

Sample ID:	Sample Dates:	Nuclide	Activity
483776	7/11/2018 - 10/10/2018	mR/Std Qtr	11.05
490560	10/10/2018 - 1/9/2019	mR/Std Qtr	15.48

Sample Point 5 [ CONTROL - WNW @ 12 miles ]

TLD RING TLD\_CTRL

Sample ID:	Sample Dates:	Nuclide	Activity
470191	1/10/2018 - 4/11/2018	mR/Std Qtr	16.72
477149	4/11/2018 - 7/11/2018	mR/Std Qtr	15.61
483779	7/11/2018 - 10/10/2018	mR/Std Qtr	14.51
490563	10/10/2018 - 1/9/2019	mR/Std Qtr	17.68

Sample Point 6 [ INDICATOR - ENE @ 0.8 miles ]

TLD RING TLD\_INNER

Sample ID:	Sample Dates:	Nuclide	Activity
470195	1/10/2018 - 4/11/2018	mR/Std Qtr	15.66
477153	4/11/2018 - 7/11/2018	mR/Std Qtr	13.65
483783	7/11/2018 - 10/10/2018	mR/Std Qtr	13.56
490567	10/10/2018 - 1/9/2019	mR/Std Qtr	16.38

Sample Point 7 [ INDICATOR - E @ 0.7 miles ]

TLD RING TLD\_INNER

Sample ID:	Sample Dates:	Nuclide	Activity
470197	1/10/2018 - 4/11/2018	mR/Std Qtr	18.99
477155	4/11/2018 - 7/11/2018	mR/Std Qtr	15.64
483785	7/11/2018 - 10/10/2018	mR/Std Qtr	13.21
490569	10/10/2018 - 1/9/2019	mR/Std Qtr	16.31

Sample Point 8 [ INDICATOR - ESE @ 0.6 miles ]

TLD RING TLD\_INNER

Sample ID:	Sample Dates:	Nuclide	Activity
470202	1/10/2018 - 4/11/2018	mR/Std Qtr	18.47
477160	4/11/2018 - 7/11/2018	mR/Std Qtr	15.18
483790	7/11/2018 - 10/10/2018	mR/Std Qtr	12.94
490574	10/10/2018 - 1/9/2019	mR/Std Qtr	14.65

Sample Point 9 [ INDICATOR - SE @ 2.2 miles ]

TLD RING TLD\_INNER

Sample ID:	Sample Dates:	Nuclide	Activity
470203	1/10/2018 - 4/11/2018	mR/Std Qtr	14.37
477161	4/11/2018 - 7/11/2018	mR/Std Qtr	13.60
483791	7/11/2018 - 10/10/2018	mR/Std Qtr	11.38

# HARRIS Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: TLD Concentration (Activity): mR/Standard Quarter

Sample Point 9 [ INDICATOR - SE @ 2.2 miles ]

TLD RING TLD\_INNER

Sample ID:	Sample Dates:	Nuclide	Activity
490575	10/10/2018 - 1/9/2019	mR/Std Qtr	13.04

Sample Point 10 [ INDICATOR - SSE @ 2.2 miles ]

TLD RING TLD\_INNER

Sample ID:	Sample Dates:	Nuclide	Activity
470165	1/10/2018 - 4/11/2018	mR/Std Qtr	14.57

Sample ID:	Sample Dates:	Nuclide	Activity
477123	4/11/2018 - 7/11/2018	mR/Std Qtr	11.95

Sample ID:	Sample Dates:	Nuclide	Activity
483753	7/11/2018 - 10/10/2018	mR/Std Qtr	10.44

Sample ID:	Sample Dates:	Nuclide	Activity
490537	10/10/2018 - 1/9/2019	mR/Std Qtr	13.97

Sample Point 11 [ INDICATOR - S @ 0.6 miles ]

TLD RING TLD\_INNER

Sample ID:	Sample Dates:	Nuclide	Activity
470166	1/10/2018 - 4/11/2018	mR/Std Qtr	16.49

Sample ID:	Sample Dates:	Nuclide	Activity
477124	4/11/2018 - 7/11/2018	mR/Std Qtr	11.41

Sample ID:	Sample Dates:	Nuclide	Activity
483754	7/11/2018 - 10/10/2018	mR/Std Qtr	12.15

Sample ID:	Sample Dates:	Nuclide	Activity
490538	10/10/2018 - 1/9/2019	mR/Std Qtr	14.41

Sample Point 12 [ INDICATOR - SSW @ 0.9 miles ]

TLD RING TLD\_INNER

Sample ID:	Sample Dates:	Nuclide	Activity
470167	1/10/2018 - 4/11/2018	mR/Std Qtr	17.12

Sample ID:	Sample Dates:	Nuclide	Activity
477125	4/11/2018 - 7/11/2018	mR/Std Qtr	12.95

Sample ID:	Sample Dates:	Nuclide	Activity
483755	7/11/2018 - 10/10/2018	mR/Std Qtr	11.83

Sample ID:	Sample Dates:	Nuclide	Activity
490539	10/10/2018 - 1/9/2019	mR/Std Qtr	13.31

Sample Point 13 [ INDICATOR - WSW @ 0.7 miles ]

TLD RING TLD\_INNER

Sample ID:	Sample Dates:	Nuclide	Activity
470168	1/10/2018 - 4/11/2018	mR/Std Qtr	16.15

Sample ID:	Sample Dates:	Nuclide	Activity
477126	4/11/2018 - 7/11/2018	mR/Std Qtr	14.11

Sample ID:	Sample Dates:	Nuclide	Activity
483756	7/11/2018 - 10/10/2018	mR/Std Qtr	13.05

Sample ID:	Sample Dates:	Nuclide	Activity
490540	10/10/2018 - 1/9/2019	mR/Std Qtr	13.67

Sample Point 14 [ INDICATOR - W @ 1.5 miles ]

TLD RING TLD\_INNER

Sample ID:	Sample Dates:	Nuclide	Activity
470169	1/10/2018 - 4/11/2018	mR/Std Qtr	17.83

Sample ID:	Sample Dates:	Nuclide	Activity
477127	4/11/2018 - 7/11/2018	mR/Std Qtr	14.68

Sample ID:	Sample Dates:	Nuclide	Activity
483757	7/11/2018 - 10/10/2018	mR/Std Qtr	14.64

Sample ID:	Sample Dates:	Nuclide	Activity
490541	10/10/2018 - 1/9/2019	mR/Std Qtr	16.56





# HARRIS Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: TLD Concentration (Activity): mR/Standard Quarter

Sample Point 15 [ INDICATOR - W @ 2 miles ]

TLD RING TLD\_INNER

Sample ID:	Sample Dates:	Nuclide	Activity
470170	1/10/2018 - 4/11/2018	mR/Std Qtr	14.22
477128	4/11/2018 - 7/11/2018	mR/Std Qtr	11.31
483758	7/11/2018 - 10/10/2018	mR/Std Qtr	10.73
490542	10/10/2018 - 1/9/2019	mR/Std Qtr	14.15

Sample Point 19 [ INDICATOR - NNE @ 5 miles ]

TLD RING TLD\_OUTER

Sample ID:	Sample Dates:	Nuclide	Activity
470171	1/10/2018 - 4/11/2018	mR/Std Qtr	16.04
477129	4/11/2018 - 7/11/2018	mR/Std Qtr	15.23
483759	7/11/2018 - 10/10/2018	mR/Std Qtr	12.67
490543	10/10/2018 - 1/9/2019	mR/Std Qtr	13.41

Sample Point 20 [ INDICATOR - NE @ 4.5 miles ]

TLD RING TLD\_OUTER

Sample ID:	Sample Dates:	Nuclide	Activity
470173	1/10/2018 - 4/11/2018	mR/Std Qtr	18.35
477131	4/11/2018 - 7/11/2018	mR/Std Qtr	16.37
483761	7/11/2018 - 10/10/2018	mR/Std Qtr	14.18
490545	10/10/2018 - 1/9/2019	mR/Std Qtr	16.8

Sample Point 21 [ INDICATOR - ENE @ 4.8 miles ]

TLD RING TLD\_OUTER

Sample ID:	Sample Dates:	Nuclide	Activity
470174	1/10/2018 - 4/11/2018	mR/Std Qtr	17.43
477132	4/11/2018 - 7/11/2018	mR/Std Qtr	13.59
483762	7/11/2018 - 10/10/2018	mR/Std Qtr	12.56
490546	10/10/2018 - 1/9/2019	mR/Std Qtr	14.97

Sample Point 22 [ INDICATOR - E @ 4.3 miles ]

TLD RING TLD\_OUTER

Sample ID:	Sample Dates:	Nuclide	Activity
470175	1/10/2018 - 4/11/2018	mR/Std Qtr	14.14
477133	4/11/2018 - 7/11/2018	mR/Std Qtr	12.28
483763	7/11/2018 - 10/10/2018	mR/Std Qtr	11.82
490547	10/10/2018 - 1/9/2019	mR/Std Qtr	14.61

Sample Point 23 [ INDICATOR - ESE @ 4.8 miles ]

TLD RING TLD\_OUTER

Sample ID:	Sample Dates:	Nuclide	Activity
470176	1/10/2018 - 4/11/2018	mR/Std Qtr	16.59



# HARRIS Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: TLD Concentration (Activity): mR/Standard Quarter

Sample Point 23 [ INDICATOR - ESE @ 4.8 miles ]

TLD RING TLD\_OUTER

Sample ID:	Sample Dates:	Nuclide	Activity
477134	4/11/2018 - 7/11/2018	mR/Std Qtr	13.52
483764	7/11/2018 - 10/10/2018	mR/Std Qtr	12.56
490548	10/10/2018 - 1/9/2019	mR/Std Qtr	16.48

Sample Point 24 [ INDICATOR - SE @ 4 miles ]

TLD RING TLD\_OUTER

Sample ID:	Sample Dates:	Nuclide	Activity
470177	1/10/2018 - 4/11/2018	mR/Std Qtr	14.84
477135	4/11/2018 - 7/11/2018	mR/Std Qtr	12.40
483765	7/11/2018 - 10/10/2018	mR/Std Qtr	12.68
490549	10/10/2018 - 1/9/2019	mR/Std Qtr	13.59

Sample Point 25 [ INDICATOR - SSE @ 4.7 miles ]

TLD RING TLD\_OUTER

Sample ID:	Sample Dates:	Nuclide	Activity
470178	1/10/2018 - 4/11/2018	mR/Std Qtr	17.93
477136	4/11/2018 - 7/11/2018	mR/Std Qtr	13.31
483766	7/11/2018 - 10/10/2018	mR/Std Qtr	12.65
490550	10/10/2018 - 1/9/2019	mR/Std Qtr	14.32

Sample Point 26 [ INDICATOR - S @ 4.7 miles ]

TLD RING TLD\_OUTER

Sample ID:	Sample Dates:	Nuclide	Activity
470179	1/10/2018 - 4/11/2018	mR/Std Qtr	13.73
477137	4/11/2018 - 7/11/2018	mR/Std Qtr	12.82
483767	7/11/2018 - 10/10/2018	mR/Std Qtr	10.66
490551	10/10/2018 - 1/9/2019	mR/Std Qtr	13.17

Sample Point 27 [ INDICATOR - SSW @ 4.8 miles ]

TLD RING TLD\_OUTER

Sample ID:	Sample Dates:	Nuclide	Activity
470180	1/10/2018 - 4/11/2018	mR/Std Qtr	14.74
477138	4/11/2018 - 7/11/2018	mR/Std Qtr	11.17
483768	7/11/2018 - 10/10/2018	mR/Std Qtr	10.95
490552	10/10/2018 - 1/9/2019	mR/Std Qtr	10.39

Sample Point 28 [ INDICATOR - SW @ 4.8 miles ]

TLD RING TLD\_OUTER

Sample ID:	Sample Dates:	Nuclide	Activity
470181	1/10/2018 - 4/11/2018	mR/Std Qtr	14.62
477139	4/11/2018 - 7/11/2018	mR/Std Qtr	12.25

# HARRIS Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: TLD Concentration (Activity): mR/Standard Quarter

Sample Point 28 [ INDICATOR - SW @ 4.8 miles ]

TLD RING TLD\_OUTER

Sample ID:	483769	Sample Dates:	7/11/2018 - 10/10/2018	Nuclide	Activity
				mR/Std Qtr	12.58
Sample ID:	490553	Sample Dates:	10/10/2018 - 1/9/2019	Nuclide	Activity
				mR/Std Qtr	14.37

Sample Point 29 [ INDICATOR - WSW @ 5.7 miles ]

TLD RING TLD\_OUTER

Sample ID:	470182	Sample Dates:	1/10/2018 - 4/11/2018	Nuclide	Activity
				mR/Std Qtr	19.97
Sample ID:	477140	Sample Dates:	4/11/2018 - 7/11/2018	Nuclide	Activity
				mR/Std Qtr	15.70
Sample ID:	483770	Sample Dates:	7/11/2018 - 10/10/2018	Nuclide	Activity
				mR/Std Qtr	14.48
Sample ID:	490554	Sample Dates:	10/10/2018 - 1/9/2019	Nuclide	Activity
				mR/Std Qtr	17.53

Sample Point 30 [ INDICATOR - W @ 5.6 miles ]

TLD RING TLD\_OUTER

Sample ID:	470184	Sample Dates:	1/10/2018 - 4/11/2018	Nuclide	Activity
				mR/Std Qtr	13.68
Sample ID:	477142	Sample Dates:	4/11/2018 - 7/11/2018	Nuclide	Activity
				mR/Std Qtr	11.57
Sample ID:	483772	Sample Dates:	7/11/2018 - 10/10/2018	Nuclide	Activity
				mR/Std Qtr	9.94
Sample ID:	490556	Sample Dates:	10/10/2018 - 1/9/2019	Nuclide	Activity
				mR/Std Qtr	11.83

Sample Point 31 [ INDICATOR - WNW @ 4.7 miles ]

TLD RING TLD\_OUTER

Sample ID:	470185	Sample Dates:	1/10/2018 - 4/11/2018	Nuclide	Activity
				mR/Std Qtr	13.04
Sample ID:	477143	Sample Dates:	4/11/2018 - 7/11/2018	Nuclide	Activity
				mR/Std Qtr	11.47
Sample ID:	483773	Sample Dates:	7/11/2018 - 10/10/2018	Nuclide	Activity
				mR/Std Qtr	10.46
Sample ID:	490557	Sample Dates:	10/10/2018 - 1/9/2019	Nuclide	Activity
				mR/Std Qtr	10.93

Sample Point 32 [ INDICATOR - NNW @ 6.4 miles ]

TLD RING TLD\_SPEC

Sample ID:	470186	Sample Dates:	1/10/2018 - 4/11/2018	Nuclide	Activity
				mR/Std Qtr	17.43
Sample ID:	477144	Sample Dates:	4/11/2018 - 7/11/2018	Nuclide	Activity
				mR/Std Qtr	13.45
Sample ID:	483774	Sample Dates:	7/11/2018 - 10/10/2018	Nuclide	Activity
				mR/Std Qtr	13.06
Sample ID:	490558	Sample Dates:	10/10/2018 - 1/9/2019	Nuclide	Activity
				mR/Std Qtr	16

Sample Point 33 [ INDICATOR - NNW @ 4.5 miles ]

TLD RING TLD\_OUTER

Sample ID:	470187	Sample Dates:	1/10/2018 - 4/11/2018	Nuclide	Activity
				mR/Std Qtr	14.63
Sample ID:	477145	Sample Dates:	4/11/2018 - 7/11/2018	Nuclide	Activity
				mR/Std Qtr	11.71
Sample ID:	490559	Sample Dates:	10/10/2018 - 1/9/2019	Nuclide	Activity
				mR/Std Qtr	13.47

# HARRIS Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: TLD Concentration (Activity): mR/Standard Quarter

Sample Point 48 [ INDICATOR - N @ 4.5 miles ]

TLD RING TLD\_OUTER

Sample ID:	Sample Dates:	Nuclide	Activity
470189	1/10/2018 - 4/11/2018	mR/Std Qtr	17.51
477147	4/11/2018 - 7/11/2018	mR/Std Qtr	14.86
483777	7/11/2018 - 10/10/2018	mR/Std Qtr	13.90
490561	10/10/2018 - 1/9/2019	mR/Std Qtr	17.25

Sample Point 49 [ INDICATOR - NE @ 2.5 miles ]

TLD RING TLD\_INNER

Sample ID:	Sample Dates:	Nuclide	Activity
470190	1/10/2018 - 4/11/2018	mR/Std Qtr	19.97
477148	4/11/2018 - 7/11/2018	mR/Std Qtr	16.44
483778	7/11/2018 - 10/10/2018	mR/Std Qtr	13.23
490562	10/10/2018 - 1/9/2019	mR/Std Qtr	16.73

Sample Point 50 [ INDICATOR - ESE @ 2.6 miles ]

TLD RING TLD\_SPEC

Sample ID:	Sample Dates:	Nuclide	Activity
470192	1/10/2018 - 4/11/2018	mR/Std Qtr	13.99
477150	4/11/2018 - 7/11/2018	mR/Std Qtr	12.13
483780	7/11/2018 - 10/10/2018	mR/Std Qtr	11.23
490564	10/10/2018 - 1/9/2019	mR/Std Qtr	13.2

Sample Point 53 [ INDICATOR - NW @ 5.8 miles ]

TLD RING TLD\_OUTER

Sample ID:	Sample Dates:	Nuclide	Activity
470193	1/10/2018 - 4/11/2018	mR/Std Qtr	14.84
477151	4/11/2018 - 7/11/2018	mR/Std Qtr	12.64
483781	7/11/2018 - 10/10/2018	mR/Std Qtr	10.91
490565	10/10/2018 - 1/9/2019	mR/Std Qtr	12.2

Sample Point 56 [ INDICATOR - WSW @ 3 miles ]

TLD RING TLD\_INNER

Sample ID:	Sample Dates:	Nuclide	Activity
470194	1/10/2018 - 4/11/2018	mR/Std Qtr	16.04
477152	4/11/2018 - 7/11/2018	mR/Std Qtr	12.11
490566	10/10/2018 - 1/9/2019	mR/Std Qtr	13.09

Sample Point 63 [ INDICATOR - SW @ 0.6 miles ]

TLD RING TLD\_INNER

Sample ID:	Sample Dates:	Nuclide	Activity
470196	1/10/2018 - 4/11/2018	mR/Std Qtr	22.08
477154	4/11/2018 - 7/11/2018	mR/Std Qtr	14.98



# HARRIS Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: TLD Concentration (Activity): mR/Standard Quarter

Sample Point 63 [ INDICATOR - SW @ 0.6 miles ]

TLD RING TLD\_INNER

Sample ID:	483784	Sample Dates:	7/11/2018 - 10/10/2018	Nuclide	Activity
				mR/Std Qtr	15.10

Sample ID:	490568	Sample Dates:	10/10/2018 - 1/9/2019	Nuclide	Activity
				mR/Std Qtr	16.69

Sample Point 93 [ INDICATOR - WNW @ 2.2 miles ]

TLD RING TLD\_INNER

Sample ID:	470204	Sample Dates:	1/10/2018 - 4/11/2018	Nuclide	Activity
				mR/Std Qtr	18.01

Sample ID:	477162	Sample Dates:	4/11/2018 - 7/11/2018	Nuclide	Activity
				mR/Std Qtr	14.42

Sample ID:	483792	Sample Dates:	7/11/2018 - 10/10/2018	Nuclide	Activity
				mR/Std Qtr	18.31

Sample ID:	490576	Sample Dates:	10/10/2018 - 1/9/2019	Nuclide	Activity
				mR/Std Qtr	15.66

Sample Point 94 [ INDICATOR - NW @ 2 miles ]

TLD RING TLD\_INNER

Sample ID:	470205	Sample Dates:	1/10/2018 - 4/11/2018	Nuclide	Activity
				mR/Std Qtr	18.37

Sample ID:	477163	Sample Dates:	4/11/2018 - 7/11/2018	Nuclide	Activity
				mR/Std Qtr	17.14

Sample ID:	483793	Sample Dates:	7/11/2018 - 10/10/2018	Nuclide	Activity
				mR/Std Qtr	15.75

Sample ID:	490577	Sample Dates:	10/10/2018 - 1/9/2019	Nuclide	Activity
				mR/Std Qtr	18.78

Sample Point 95 [ INDICATOR - NNW @ 2 miles ]

TLD RING TLD\_INNER

Sample ID:	470206	Sample Dates:	1/10/2018 - 4/11/2018	Nuclide	Activity
				mR/Std Qtr	16.62

Sample ID:	477164	Sample Dates:	4/11/2018 - 7/11/2018	Nuclide	Activity
				mR/Std Qtr	14.97

Sample ID:	483794	Sample Dates:	7/11/2018 - 10/10/2018	Nuclide	Activity
				mR/Std Qtr	13.40

Sample ID:	490578	Sample Dates:	10/10/2018 - 1/9/2019	Nuclide	Activity
				mR/Std Qtr	16

Sample Point 98 [ INDICATOR - E @ 5.9 miles ]

TLD RING TLD\_SPEC

Sample ID:	470207	Sample Dates:	1/10/2018 - 4/11/2018	Nuclide	Activity
				mR/Std Qtr	15.29

Sample ID:	477165	Sample Dates:	4/11/2018 - 7/11/2018	Nuclide	Activity
				mR/Std Qtr	14.31

Sample ID:	483795	Sample Dates:	7/11/2018 - 10/10/2018	Nuclide	Activity
				mR/Std Qtr	13.58

Sample ID:	490579	Sample Dates:	10/10/2018 - 1/9/2019	Nuclide	Activity
				mR/Std Qtr	15.64

Sample Point 99 [ INDICATOR - NNE @ 5.47 miles ]

TLD RING TLD\_SPEC

Sample ID:	470208	Sample Dates:	1/10/2018 - 4/11/2018	Nuclide	Activity
				mR/Std Qtr	16.13

Sample ID:	477166	Sample Dates:	4/11/2018 - 7/11/2018	Nuclide	Activity
				mR/Std Qtr	13.6

Sample ID:	483796	Sample Dates:	7/11/2018 - 10/10/2018	Nuclide	Activity
				mR/Std Qtr	14.29

# HARRIS Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: TLD Concentration (Activity): mR/Standard Quarter

Sample Point 99 [ INDICATOR - NNE @ 5.47 miles ]

TLD RING TLD\_SPEC

Sample ID: 490580 Sample Dates: 10/10/2018 - 1/9/2019 Nuclide Activity  
mR/Std Qtr 15.76

Media Type: VEGETATION Concentration (Activity): pCi/kg wet

Sample Point 5 [ CONTROL - NNW @ 12 miles ]

Sample ID:	474881	Sample Dates:	5/7/2018 - 5/7/2018	MIXEDBLV	Nuclide	Activity	2 Sigma Error	MDA
					Mn-54	<2.68E+01	0.00E+00	2.68E+01
					Co-58	<2.58E+01	0.00E+00	2.58E+01
					Fe-59	<4.65E+01	0.00E+00	4.65E+01
					Co-60	<2.93E+01	0.00E+00	2.93E+01
					Zn-65	<4.20E+01	0.00E+00	4.20E+01
					Zr-95	<4.25E+01	0.00E+00	4.25E+01
					Nb-95	<2.40E+01	0.00E+00	2.40E+01
					I-131	<2.48E+01	0.00E+00	2.48E+01
					Cs-134	<3.13E+01	0.00E+00	3.13E+01
					Cs-137	<2.91E+01	0.00E+00	2.91E+01
					BaLa-140	<4.41E+01	0.00E+00	4.41E+01
					Be-7	3.57E+02	1.73E+02	2.29E+02
					K-40	4.26E+03	7.41E+02	4.29E+02

Sample ID:	477367	Sample Dates:	6/4/2018 - 6/4/2018	MIXEDBLV	Nuclide	Activity	2 Sigma Error	MDA
					Mn-54	<2.69E+01	0.00E+00	2.69E+01
					Co-58	<2.22E+01	0.00E+00	2.22E+01
					Fe-59	<5.10E+01	0.00E+00	5.10E+01
					Co-60	<2.28E+01	0.00E+00	2.28E+01
					Zn-65	<6.06E+01	0.00E+00	6.06E+01
					Zr-95	<5.34E+01	0.00E+00	5.34E+01
					Nb-95	<3.53E+01	0.00E+00	3.53E+01
					I-131	<2.59E+01	0.00E+00	2.59E+01
					Cs-134	<3.31E+01	0.00E+00	3.31E+01
					Cs-137	<3.19E+01	0.00E+00	3.19E+01
					BaLa-140	<3.66E+01	0.00E+00	3.66E+01
					Be-7	8.44E+02	2.82E+02	3.51E+02
					K-40	3.96E+03	7.44E+02	4.84E+02

Sample ID:	479049	Sample Dates:	7/2/2018 - 7/2/2018	MIXEDBLV	Nuclide	Activity	2 Sigma Error	MDA
					Mn-54	<2.40E+01	0.00E+00	2.40E+01
					Co-58	<2.56E+01	0.00E+00	2.56E+01
					Fe-59	<6.50E+01	0.00E+00	6.50E+01
					Co-60	<3.34E+01	0.00E+00	3.34E+01
					Zn-65	<6.09E+01	0.00E+00	6.09E+01
					Zr-95	<4.05E+01	0.00E+00	4.05E+01
					Nb-95	<3.09E+01	0.00E+00	3.09E+01
					I-131	<2.96E+01	0.00E+00	2.96E+01
					Cs-134	<2.84E+01	0.00E+00	2.84E+01
					Cs-137	<2.51E+01	0.00E+00	2.51E+01
					BaLa-140	<3.88E+01	0.00E+00	3.88E+01
					Be-7	1.42E+03	2.89E+02	2.71E+02
					K-40	4.58E+03	6.77E+02	2.12E+02

Sample ID:	481944	Sample Dates:	8/6/2018 - 8/6/2018	MIXEDBLV	Nuclide	Activity	2 Sigma Error	MDA
					Mn-54	<3.40E+01	0.00E+00	3.40E+01
					Co-58	<3.00E+01	0.00E+00	3.00E+01
					Fe-59	<7.13E+01	0.00E+00	7.13E+01
					Co-60	<2.19E+01	0.00E+00	2.19E+01
					Zn-65	<6.96E+01	0.00E+00	6.96E+01
					Zr-95	<5.00E+01	0.00E+00	5.00E+01
					Nb-95	<3.48E+01	0.00E+00	3.48E+01
					I-131	<4.66E+01	0.00E+00	4.66E+01
					Cs-134	<3.88E+01	0.00E+00	3.88E+01
					Cs-137	<3.05E+01	0.00E+00	3.05E+01
					BaLa-140	<5.98E+01	0.00E+00	5.98E+01
					Be-7	1.62E+03	3.63E+02	3.57E+02
					K-40	3.34E+03	6.58E+02	4.08E+02

Sample ID:	484001	Sample Dates:	9/10/2018 - 9/10/2018	MIXEDBLV	Nuclide	Activity	2 Sigma Error	MDA
					Mn-54	<3.53E+01	0.00E+00	3.53E+01



# HARRIS Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: VEGETATION Concentration (Activity): pCi/kg wet

Sample Point 5 [ CONTROL - NNW @ 12 miles ]

Sample ID:	Sample Dates:	MIXEDBLV	Nuclide	Activity	2 Sigma Error	MDA
484001	9/10/2018 - 9/10/2018	MIXEDBLV	Co-58	<4.04E+01	0.00E+00	4.04E+01
			Fe-59	<8.53E+01	0.00E+00	8.53E+01
			Co-60	<3.89E+01	0.00E+00	3.89E+01
			Zn-65	<1.06E+02	0.00E+00	1.06E+02
			Zr-95	<8.01E+01	0.00E+00	8.01E+01
			Nb-95	<3.95E+01	0.00E+00	3.95E+01
			I-131	<4.48E+01	0.00E+00	4.48E+01
			Cs-134	<4.52E+01	0.00E+00	4.52E+01
			Cs-137	<2.58E+01	0.00E+00	2.58E+01
			BaLa-140	<4.85E+01	0.00E+00	4.85E+01
			Be-7	3.17E+03	5.70E+02	4.86E+02
			K-40	4.20E+03	8.69E+02	5.87E+02

Sample ID:	Sample Dates:	MIXEDBLV	Nuclide	Activity	2 Sigma Error	MDA
486146	10/8/2018 - 10/8/2018	MIXEDBLV	Mn-54	<3.41E+01	0.00E+00	3.41E+01
			Co-58	<2.48E+01	0.00E+00	2.48E+01
			Fe-59	<5.63E+01	0.00E+00	5.63E+01
			Co-60	<2.80E+01	0.00E+00	2.80E+01
			Zn-65	<6.08E+01	0.00E+00	6.08E+01
			Zr-95	<4.59E+01	0.00E+00	4.59E+01
			Nb-95	<2.84E+01	0.00E+00	2.84E+01
			I-131	<4.25E+01	0.00E+00	4.25E+01
			Cs-134	<3.02E+01	0.00E+00	3.02E+01
			Cs-137	<3.00E+01	0.00E+00	3.00E+01
			BaLa-140	<3.33E+01	0.00E+00	3.33E+01
			Be-7	2.67E+03	4.38E+02	4.00E+02
			K-40	3.11E+03	5.80E+02	4.38E+02

Sample Point 12 [ INDICATOR - SSW @ 0.9 miles ]

Sample ID:	Sample Dates:	MIXEDBLV	Nuclide	Activity	2 Sigma Error	MDA
474880	5/7/2018 - 5/7/2018	MIXEDBLV	Mn-54	<2.41E+01	0.00E+00	2.41E+01
			Co-58	<2.42E+01	0.00E+00	2.42E+01
			Fe-59	<6.19E+01	0.00E+00	6.19E+01
			Co-60	<2.17E+01	0.00E+00	2.17E+01
			Zn-65	<7.39E+01	0.00E+00	7.39E+01
			Zr-95	<4.67E+01	0.00E+00	4.67E+01
			Nb-95	<3.09E+01	0.00E+00	3.09E+01
			I-131	<3.56E+01	0.00E+00	3.56E+01
			Cs-134	<2.99E+01	0.00E+00	2.99E+01
			Cs-137	<2.46E+01	0.00E+00	2.46E+01
			BaLa-140	<4.00E+01	0.00E+00	4.00E+01
			Be-7	4.81E+02	2.46E+02	3.54E+02
			K-40	3.36E+03	6.39E+02	2.93E+02

Sample ID:	Sample Dates:	MIXEDBLV	Nuclide	Activity	2 Sigma Error	MDA
477366	6/4/2018 - 6/4/2018	MIXEDBLV	Mn-54	<3.53E+01	0.00E+00	3.53E+01
			Co-58	<3.15E+01	0.00E+00	3.15E+01
			Fe-59	<5.51E+01	0.00E+00	5.51E+01
			Co-60	<3.87E+01	0.00E+00	3.87E+01
			Zn-65	<6.07E+01	0.00E+00	6.07E+01
			Zr-95	<7.55E+01	0.00E+00	7.55E+01
			Nb-95	<3.47E+01	0.00E+00	3.47E+01
			I-131	<3.98E+01	0.00E+00	3.98E+01
			Cs-134	<3.96E+01	0.00E+00	3.96E+01
			Cs-137	<4.71E+01	0.00E+00	4.71E+01
			BaLa-140	<1.22E+01	0.00E+00	1.22E+01
			Be-7	1.08E+03	3.33E+02	3.75E+02
			K-40	2.55E+03	6.34E+02	3.80E+02

Sample ID:	Sample Dates:	MIXEDBLV	Nuclide	Activity	2 Sigma Error	MDA
479048	7/2/2018 - 7/2/2018	MIXEDBLV	Mn-54	<3.65E+01	0.00E+00	3.65E+01
			Co-58	<3.48E+01	0.00E+00	3.48E+01
			Fe-59	<5.80E+01	0.00E+00	5.80E+01
			Co-60	<2.23E+01	0.00E+00	2.23E+01
			Zn-65	<9.21E+01	0.00E+00	9.21E+01
			Zr-95	<5.44E+01	0.00E+00	5.44E+01



# HARRIS Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: VEGETATION Concentration (Activity): pCi/kg wet

Sample Point 12 [ INDICATOR - SSW @ 0.9 miles ]

Sample ID:	Sample Dates:	MIXEDBLV	Nuclide	Activity	2 Sigma Error	MDA
479048	7/2/2018 - 7/2/2018	MIXEDBLV	Nb-95	<3.73E+01	0.00E+00	3.73E+01
			I-131	<4.09E+01	0.00E+00	4.09E+01
			Cs-134	<3.49E+01	0.00E+00	3.49E+01
			Cs-137	<3.34E+01	0.00E+00	3.34E+01
			BaLa-140	<6.11E+01	0.00E+00	6.11E+01
			Be-7	1.26E+03	3.75E+02	4.45E+02
			K-40	2.50E+03	6.02E+02	2.97E+02

Sample ID:	Sample Dates:	MIXEDBLV	Nuclide	Activity	2 Sigma Error	MDA
481943	8/6/2018 - 8/6/2018	MIXEDBLV	Mn-54	<2.29E+01	0.00E+00	2.29E+01
			Co-58	<2.29E+01	0.00E+00	2.29E+01
			Fe-59	<3.61E+01	0.00E+00	3.61E+01
			Co-60	<2.44E+01	0.00E+00	2.44E+01
			Zn-65	<4.53E+01	0.00E+00	4.53E+01
			Zr-95	<4.69E+01	0.00E+00	4.69E+01
			Nb-95	<2.64E+01	0.00E+00	2.64E+01
			I-131	<4.76E+01	0.00E+00	4.76E+01
			Cs-134	<2.05E+01	0.00E+00	2.05E+01
			Cs-137	<2.34E+01	0.00E+00	2.34E+01
			BaLa-140	<3.81E+01	0.00E+00	3.81E+01
			Be-7	2.09E+03	3.41E+02	2.88E+02
			K-40	2.54E+03	4.81E+02	3.65E+02

Sample ID:	Sample Dates:	MIXEDBLV	Nuclide	Activity	2 Sigma Error	MDA
484000	9/10/2018 - 9/10/2018	MIXEDBLV	Mn-54	<3.63E+01	0.00E+00	3.63E+01
			Co-58	<2.76E+01	0.00E+00	2.76E+01
			Fe-59	<6.92E+01	0.00E+00	6.92E+01
			Co-60	<3.99E+01	0.00E+00	3.99E+01
			Zn-65	<8.18E+01	0.00E+00	8.18E+01
			Zr-95	<5.22E+01	0.00E+00	5.22E+01
			Nb-95	<3.57E+01	0.00E+00	3.57E+01
			I-131	<3.85E+01	0.00E+00	3.85E+01
			Cs-134	<3.85E+01	0.00E+00	3.85E+01
			Cs-137	<4.01E+01	0.00E+00	4.01E+01
			BaLa-140	<5.04E+01	0.00E+00	5.04E+01
			Be-7	3.18E+03	5.75E+02	4.67E+02
			K-40	2.87E+03	7.36E+02	6.26E+02

Sample ID:	Sample Dates:	MIXEDBLV	Nuclide	Activity	2 Sigma Error	MDA
486145	10/8/2018 - 10/8/2018	MIXEDBLV	Mn-54	<3.35E+01	0.00E+00	3.35E+01
			Co-58	<4.06E+01	0.00E+00	4.06E+01
			Fe-59	<6.93E+01	0.00E+00	6.93E+01
			Co-60	<2.69E+01	0.00E+00	2.69E+01
			Zn-65	<8.53E+01	0.00E+00	8.53E+01
			Zr-95	<5.12E+01	0.00E+00	5.12E+01
			Nb-95	<3.55E+01	0.00E+00	3.55E+01
			I-131	<4.69E+01	0.00E+00	4.69E+01
			Cs-134	<4.06E+01	0.00E+00	4.06E+01
			Cs-137	<4.32E+01	0.00E+00	4.32E+01
			BaLa-140	<6.18E+01	0.00E+00	6.18E+01
			Be-7	3.71E+03	6.24E+02	5.14E+02
			K-40	2.28E+03	6.96E+02	7.87E+02

## Sample Point 63 [ INDICATOR - SW @ 0.6 miles ]

Sample ID:	Sample Dates:	MIXEDBLV	Nuclide	Activity	2 Sigma Error	MDA
474882	5/7/2018 - 5/7/2018	MIXEDBLV	Mn-54	<2.48E+01	0.00E+00	2.48E+01
			Co-58	<2.63E+01	0.00E+00	2.63E+01
			Fe-59	<5.38E+01	0.00E+00	5.38E+01
			Co-60	<2.88E+01	0.00E+00	2.88E+01
			Zn-65	<6.30E+01	0.00E+00	6.30E+01
			Zr-95	<4.06E+01	0.00E+00	4.06E+01
			Nb-95	<2.58E+01	0.00E+00	2.58E+01
			I-131	<2.68E+01	0.00E+00	2.68E+01
			Cs-134	<2.78E+01	0.00E+00	2.78E+01
			Cs-137	<2.09E+01	0.00E+00	2.09E+01
			BaLa-140	<3.65E+01	0.00E+00	3.65E+01





# HARRIS Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: VEGETATION Concentration (Activity): pCi/kg wet

Sample Point 63 [ INDICATOR - SW @ 0.6 miles ]

Sample ID:	Sample Dates:	MIXEDBLV	Nuclide	Activity	2 Sigma Error	MDA
474882	5/7/2018 - 5/7/2018	MIXEDBLV	Be-7	2.91E+02	1.99E+02	2.99E+02
			K-40	3.11E+03	6.29E+02	3.54E+02
477368	6/4/2018 - 6/4/2018	MIXEDBLV	Mn-54	<2.29E+01	0.00E+00	2.29E+01
			Co-58	<2.11E+01	0.00E+00	2.11E+01
			Fe-59	<3.40E+01	0.00E+00	3.40E+01
			Co-60	<2.28E+01	0.00E+00	2.28E+01
			Zn-65	<4.42E+01	0.00E+00	4.42E+01
			Zr-95	<4.09E+01	0.00E+00	4.09E+01
			Nb-95	<2.01E+01	0.00E+00	2.01E+01
			I-131	<2.36E+01	0.00E+00	2.36E+01
			Cs-134	<2.43E+01	0.00E+00	2.43E+01
			Cs-137	<2.22E+01	0.00E+00	2.22E+01
			BaLa-140	<1.99E+01	0.00E+00	1.99E+01
			Be-7	5.91E+02	2.04E+02	2.68E+02
			K-40	3.36E+03	5.41E+02	2.40E+02
479050	7/2/2018 - 7/2/2018	MIXEDBLV	Mn-54	<5.63E+01	0.00E+00	5.63E+01
			Co-58	<4.76E+01	0.00E+00	4.76E+01
			Fe-59	<8.24E+01	0.00E+00	8.24E+01
			Co-60	<2.90E+01	0.00E+00	2.90E+01
			Zn-65	<8.28E+01	0.00E+00	8.28E+01
			Zr-95	<6.22E+01	0.00E+00	6.22E+01
			Nb-95	<5.06E+01	0.00E+00	5.06E+01
			I-131	<4.36E+01	0.00E+00	4.36E+01
			Cs-134	<3.28E+01	0.00E+00	3.28E+01
			Cs-137	<4.37E+01	0.00E+00	4.37E+01
			BaLa-140	<6.74E+01	0.00E+00	6.74E+01
			Be-7	1.30E+03	3.76E+02	3.72E+02
			K-40	2.84E+03	7.84E+02	6.64E+02
481945	8/6/2018 - 8/6/2018	MIXEDBLV	Mn-54	<3.42E+01	0.00E+00	3.42E+01
			Co-58	<2.82E+01	0.00E+00	2.82E+01
			Fe-59	<6.72E+01	0.00E+00	6.72E+01
			Co-60	<3.85E+01	0.00E+00	3.85E+01
			Zn-65	<4.41E+01	0.00E+00	4.41E+01
			Zr-95	<5.55E+01	0.00E+00	5.55E+01
			Nb-95	<3.96E+01	0.00E+00	3.96E+01
			I-131	<4.68E+01	0.00E+00	4.68E+01
			Cs-134	<3.36E+01	0.00E+00	3.36E+01
			Cs-137	<2.43E+01	0.00E+00	2.43E+01
			BaLa-140	<4.22E+01	0.00E+00	4.22E+01
			Be-7	1.81E+03	3.94E+02	4.09E+02
			K-40	3.40E+03	7.10E+02	6.15E+02
484002	9/10/2018 - 9/10/2018	MIXEDBLV	Mn-54	<4.59E+01	0.00E+00	4.59E+01
			Co-58	<4.13E+01	0.00E+00	4.13E+01
			Fe-59	<7.70E+01	0.00E+00	7.70E+01
			Co-60	<4.84E+01	0.00E+00	4.84E+01
			Zn-65	<8.45E+01	0.00E+00	8.45E+01
			Zr-95	<7.74E+01	0.00E+00	7.74E+01
			Nb-95	<4.38E+01	0.00E+00	4.38E+01
			I-131	<4.79E+01	0.00E+00	4.79E+01
			Cs-134	<4.60E+01	0.00E+00	4.60E+01
			Cs-137	<3.80E+01	0.00E+00	3.80E+01
			BaLa-140	<4.52E+01	0.00E+00	4.52E+01
			Be-7	1.97E+03	4.62E+02	4.67E+02
			K-40	3.23E+03	8.79E+02	9.33E+02
486147	10/8/2018 - 10/8/2018	MIXEDBLV	Mn-54	<2.67E+01	0.00E+00	2.67E+01
			Co-58	<2.58E+01	0.00E+00	2.58E+01
			Fe-59	<5.22E+01	0.00E+00	5.22E+01



# HARRIS Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: VEGETATION Concentration (Activity): pCi/kg wet

Sample Point 63 [ INDICATOR - SW @ 0.6 miles ]

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Sample ID:	486147	Sample Dates:	10/8/2018 - 10/8/2018	MIXEDBLV	Nuclide	Activity	2 Sigma Error	MDA
					Co-60	<3.08E+01	0.00E+00	3.08E+01
					Zn-65	<6.33E+01	0.00E+00	6.33E+01
					Zr-95	<5.69E+01	0.00E+00	5.69E+01
					Nb-95	<3.13E+01	0.00E+00	3.13E+01
					I-131	<4.46E+01	0.00E+00	4.46E+01
					Cs-134	<2.91E+01	0.00E+00	2.91E+01
					Cs-137	<2.19E+01	0.00E+00	2.19E+01
					BaLa-140	<3.81E+01	0.00E+00	3.81E+01
					Be-7	2.80E+03	4.37E+02	3.88E+02
					K-40	3.08E+03	5.75E+02	4.65E+02

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**APPENDIX F**

**ERRATA TO  
PREVIOUS REPORTS**

**2018**

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# APPENDIX F

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## ERRATA TO THE 2018 HNP AREOR

There are no errata to be appended to the 2018 HNP AREOR.